The Croonian Lectures

ON

THE CHEMICAL PRODUCTS OF PATHOGENIC BACTERIA CONSIDERED WITH SPECIAL REFERENCE TO ENTERIC FEVER.

Delivered before the Royal College of Physicians of London on June 14th, 16th, 21st, and 23rd, 1898,

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LECTURE II.[1]

Delivered on June 16th.

MR. PRESIDENT AND GENTLEMEN,—We now pass to the consideration of the investigation more recently made on the chemical products of the typhoid bacillus, of the bacillus coli communis, and of a form allied to these—viz., the bacillus enteritidis of Gärtner. These three micro-organisms are in culture closely allied to each other. They all grow in broth, forming a cloudiness and a sediment, not commonly a scum on the surface, although this is present sometimes in cultures of the bacillus coli. The growth on agar is very similiar in all three forms, being more fluorescent with the bacillus coli than with the other two forms. On gelatin they grow without producing any liquefaction of the medium. Their differences are as follows: in glucose-gelatin and glucose-agar the bacillus coli and Gärtner's bacillus form numerous bubbles of gas, while the typhoid bacillus, although it grows copiously, produces no bubbles. The bubbles are due to the formation of gas from the sugar present. On potato the bacillus coli gives a copious, yellowish brown growth, the Gärtner's bacillus a slightly coloured, and the typhoid bacillus gives a filmy, almost transparent, growth. Milk is coagulated by the bacillus coli, but is not coagulated by the typhoid bacillus or by Gärtner's bacillus. Indol is formed in a broth culture by the bacillus coli, not at all by the typhoid bacillus, and only a slight indol reaction can be obtained, and that not constantly, in cultures of the Gärtner's bacillus. Some varieties of the bacillus coli do not appear to form indol. These cultural characteristics are slight, but are sufficient for the purpose of diagnosis, inasmuch as the bacillus coli can always be distinguished from the other two by the gas it forms in glucose gelatin, by its coagulation of milk and by the indol it produces, whereas Gärtner's bacillus is distinguished from the typhoid bacillus by the fact that it forms gas in glucose gelatin. In any of the media the growth of the bacillus coli and of Gärtner's bacillus is much more copious than that of the typhoid bacillus. The bacillus coli is further distinguished from the typhoid bacillus by not giving the "serum reaction" with the blood of a typhoid fever patient or with typhoid "antitoxic serum." Dr. Durham states that Gärtner's bacillus sometimes gives a sedimenting reaction with typhoid blood or serum. All these organisms are flagellated, the typhoid bacillus containing the most numerous flagella, the bacillus coli the smallest number, and Gärtner's bacillus being intermediate. The close similarity in vegetative properties of these three micro-organisms rendered it advisable that they should be investigated together. They probably play very different rôles in the production of disease. The typhoid bacillus is the cause of enteric fever, the bacillus coli plays a great part in the production of peritoneal lesions proceeding from the intestine and inflammatory conditions connected with the pelvic and other abdominal organs, and Gärtner's bacillus was originally found in the body of a man who had been poisoned by beef which also contained the bacillus. Dr. H. E. Durham thinks that it may be the cause of some cases of food poisoning. Both the typhoid bacillus and Gärtner's bacillus may therefore be considered as micro-organisms chiefly infecting the intestinal tract and the bacillus coli, though it is not known to produce any gross lesion in the intestinal tract, is a natural habitant in that region and may aid in intestinal infections.

THE TYPHOID BACILLUS.

The typhoid bacillus is found in enteric fever in the intestinal lesions, in the mesentery glands, and in the spleen. It is present in some cases in the motions of typhoid fever patients and also in the urine, and has been occasionally found in the liver and in the blood. It is also present in some of the abscesses of remote parts which may be observed in the course of typhoid fever or during its convalescence. It is most readily separated from the spleen and in the following manner: after the spleen has been removed wholly from the body it is washed on the surface with boiling distilled water, followed by absolute alcohol. It is then incised with a sterilised knife. By means of a sterile platinum rod inserted into the substance of the spleen inoculation of broth tubes or the surface of agar plates is made, and within twenty-four hours there is a copious growth of the typhoid bacillus.

Another method is to remove a small portion of the splenic pulp by means of sterile instruments and place it in 200 c.c. of sterile distilled water in a flask which is incubated for twenty-four hours. The liquid is then brushed over the surface of agar plates and in twenty-four hours a copious growth of the typhoid bacillus is obtained. I have examined four spleens in this manner—one from the Middlesex Hospital, kindly sent me by Mr. Fardon; one from St. Thomas's Hospital, sent by Dr. Hawkins; one from Homerton Hospital, sent by Dr. Goodall; and one from University College Hospital, from a case under the care of Dr. Ringer. With the exception of one case all gave a pure and abundant culture of the typhoid bacillus. The exception showed a great preponderance of colonies of the typhoid bacillus on the agar plate, but one or two colonies appeared rather different from the others, being more opaque and fluorescent. These were separated and proved to be the bacillus coli. All the remaining colonies, as well as those from the other three cases, gave all the typical reactions of the typhoid bacillus, including the serum reaction (Widal's). The presence of this pathogenic organism in pure culture in the spleen and its invariable presence is one of the arguments in favour of the typhoid bacillus being the cause of enteric fever.

Increase of virulence of the bacillus.—In the investigation of the products of a pathogenic bacterium it is not of much value working with non-virulent cultures. None of the ordinary cultures of the typhoid bacillus obtainable in laboratories will kill an animal. I obtained cultures from various laboratories in England and found them all incapable of causing death. Although, as will appear, the action of the chemical products of these non-virulent forms are of some significance, yet much progress was not made until a virulent culture was obtained. Chantemesse and Widal[2] rendered the typhoid bacillus virulent by injecting 4 c.c. of a broth culture under the skin of the guinea-pig and at the same time injecting into the peritoneal cavity from 8 to 10 c.c. of the sterilised chemical products of the streptococcus. The animal died and the typhoid bacillus was found in the blood, in the organs, and in the peritoneal cavity. A culture was made from this in broth and used for a second experiment of a like character, using rather less of the streptococcus products. When proceeding in this way it was found that less and less of the streptococcus products could be used, the animal still dying, until finally it was found that the culture of the typhoid bacillus obtained could in subcutaneous doses of ¼ c.c. kill the animal without the aid of the streptococcus products. Similar results have been obtained by using the products of the bacillus coli or of the bacillus prodigiosus instead of the streptococcus products. I attempted this method, using the bacillus coli products, but found that although the virulence of the bacillus was undoubtedly increased, yet I could not obtain it in a virulent enough condition to cause death of itself. I obtained, however, an extremely virulent typhoid bacillus by utilising cultures made from the spleen of one of the cases examined.

The virulence of the typhoid bacillus as obtained direct from the spleen after death or during the course of the disease varies somewhat. In one of the cases a small amount of splenic pulp was ground up with salt solution and 2 c.c. of this mixture were injected into the peritoneal cavity of a guinea-pig. Death occurred in the course of eight days, and a pure growth of the bacillus was obtained from the peritoneum, but not from the blood of the heart or the

[1] Lecture I. was published in THE LANCET of June 18th, 1898.

[2] Annales de l'Institut Pasteur, vol. vi., p. 755, 1892.

spleen. From another case a small quantity of a similar mixture was injected into two guinea-pigs and both died in under twenty-four hours, and a pure growth of the bacillus was obtained from the peritoneal cavity and from the blood of the heart. The first of these cases was used for obtaining a virulent bacillus. 4 c.c. of a four-day-old culture of the splenic pulp in broth were injected into the peritoneal cavity of a guinea-pig; death occurred in under twenty-four hours. There was slight effusion into the peritoneal cavity, from which a pure culture of the bacillus was obtained. $\frac{1}{4}$ c.c. of this effusion was injected into the peritoneal cavity, of another guinea-pig. Death occurred in under twenty-four hours, and in the subsequent procedure the effusion from the peritoneal cavity of one guinea-pig was injected into the peritoneum of another, death occurring in the twenty-four hours. At the eleventh successive inoculation $\frac{1}{10}$ c.c. of the peritoneal effusion killed the guinea-pig in two days. At the thirteenth inoculation $\frac{1}{10}$ c.c. diluted in salt solution killed in less than twenty-four hours, and at the sixteenth inoculation half a platinum loopful of a twenty-four-hour-old agar culture injected into the peritoneal cavity killed a guinea-pig in under twenty-four hours.

During the course of these inoculations it was observed that there was almost constantly an exudation of turbid fluid of greater or less amount into the peritoneal cavity. There was occasionally a little lymph on the surface of the intestines and sometimes there were ecchymoses in the spleen. The peritoneal exudation was highly albuminous, coagulating solid on heating. Under microscopical examination it showed large numbers of short rods, more or less actively motile. In the first inoculations some leucocytes were present in the exudation, showing phagocytosis. Later, however, as the bacillus became more virulent the cells and phagocytosis were not observed and the exudation consisted simply of a highly albuminous fluid containing enormous quantities of typhoid bacilli, sometimes in clumps, usually singly. As the virulence of the bacillus increased so did the time of death diminish and at the twenty-eighth inoculation 2 c.c. of the peritoneal exudation were injected into the peritoneal cavity of a rabbit, causing death in five and a half hours—a result which cannot be attributed solely to bacterial action but must be ascribed to the chemical poisons present in the peritoneal fluid. This was very evident in the experiment on a rabbit weighing 590 grammes, which received 0·25 c.c. of the peritoneal fluid into the left marginal vein. Symptoms of collapse soon supervened and death occurred in two and a half hours. The peritoneal exudation produced by the introduction of virulent typhoid bacilli is therefore highly poisonous, and these properties were investigated.

In all these cases the typhoid bacillus was obtained in pure culture in the peritoneal cavity, whether there was much or little effusion, and it retained throughout its typical cultural characteristics. There was no case in which there was a mixed infection with any other micro-organism, so that the effects were those of the bacillus itself. An examination was made of the distribution of the bacillus in the various organs of the body. In the earlier inoculations during the increase of virulence it was found that although the animal died the bacillus was limited to the peritoneal cavity and was not present in the spleen or the heart's blood, showing that death was produced by absorption of the poisons formed by the bacillus in the peritoneal cavity, which acted as a sort of living test tube. In the later experiments, however, the bacillus did not remain in the peritoneal cavity, although its distribution throughout the body was not constant. Thus in one experiment (peritoneal injection) at death it was found that the heart's blood, spleen, and liver all gave pure cultures of the typhoid bacillus as well as the fluid in the peritoneal cavity. This was confirmed by the next experiment, but in the one following a pure growth was obtained from the peritoneal effusion and from the spleen and not from the liver or the heart's blood. There is a tendency, therefore, more with the weak virus than with the strong, for the typhoid bacillus to limit itself in its growth to the seat of inoculation, although a general distribution of the bacillus throughout the body usually occurs with the virulent form. This limitation of the bacillus to the site of injection is well marked when it is subcutaneously injected. Thus in a guinea-pig which received subcutaneously $\frac{1}{4}$ c.c. of virulent peritoneal fluid there was a swelling at the site of inoculation which ended in a slowly-forming abscess pointing in eleven days; a pure culture of the bacillus was obtained from it. The animal was killed on the twelfth day and a pure culture of the bacillus was obtained from the abscess, but the heart's blood, the spleen, the liver, and the peritoneum were sterile; the heart muscle was not degenerated. Chantemesse and Widal and others have, however, found that infection of the body can occur after subcutaneous injection of the bacillus, and this occurs readily if the process of infection be aided in the manner previously described.

It is interesting to note in this series of experiments the absence of leucocytes in the peritoneal exudation as the bacillus became more virulent, and the formation of an abscess and the limitation of the growth of the bacillus when the virulent virus was injected under the skin.

Toxic action of the peritoneal fluid.—It has been stated that the cause of death when the virulent peritoneal fluid is injected into a rabbit or a guinea-pig was due more to the action of a chemical poison than to the growth of the bacillus, since this occurred so rapidly—in one case in five and a half hours and following intravenous injection in two and a half hours. The effects of this chemical poison were examined by filtering the peritoneal fluid through porcelain in a small apparatus improvised for the purpose. In the first experiment $\frac{1}{2}$ c.c. of this filtered sterile peritoneal fluid was injected into the marginal vein of a young rabbit. A moderate degree of fever followed the injection for several hours. Subsequently the temperature fell to the normal and no symptoms were observed in the animal, which died at the end of thirty days. The heart's blood was sterile and the heart muscle showed well-marked degeneration of the fibres, there being loss of striation, longitudinal fibrillation and the presence of numerous small granules staining black with osmic acid. Other experiments were performed in a similar manner, using 1 c.c., 1·5 c.c., and 2 c.c. of the filtered peritoneal fluid. In all cases some degree of fever followed the injection, but no effect was subsequently observed and death did not occur. The filtered peritoneal fluid was therefore not nearly so poisonous as the unfiltered, evidently the porcelain filtrate had kept back the greater part of the chemical poison, whether this was present in the albuminous fluid or in the bodies of the bacilli.

Examination of the poison in the fresh state in the spleen.—Before continuing this part of the subject we must return to the consideration of the poisons present in the spleen of typhoid fever patients. In all the cases examined, as has been stated, the typhoid bacillus was present in large quantities, and in only one was there an admixture with another bacterium, the bacillus coli. The splenic pulp was rubbed through sterile wire gauze and treated with about 500 c.c. of sterile normal salt solution. This was allowed to stand a short time and an attempt was made to filter it through porcelain. This was a matter of great difficulty, only a small amount of the liquid passing through. It was thin and deeply blood-stained. It was injected into the marginal vein of a rabbit on two successive days—4 c.c. on the first day and 3·5 c.c. on the second day. No appreciable effect on either the temperature or the body weight followed the injection on either day or on the subsequent two days; but on the fifth day of the experiment the temperature was found to have fallen to 97·6° F., and the animal was collapsed and had profuse and mucoid diarrhœa. The temperature remained subnormal the whole of that day and at 10 o'clock on the sixth day it was 95·4° and the animal was lying motionless on its side but breathing regularly. It was killed with chloroform. At the post-mortem examination there was subcutaneous hæmorrhage over the lower third of the abdomen extending down over the upper third of the front of the thighs. In the abdomen there was a soft blood-clot matting together the omentum and the adjacent coils of the intestine. There was no peritonitis. The thoracic organs were normal and the intestines were empty except the upper part of the colon and cæcum, which contained soft fæces. There was no enlargement or redness of the Peyer's patches or of any other part of the mucous membrane. From the peritoneal cavity was obtained a growth of the bacillus coli, but the spleen contained no micro-organisms. What is interesting in this experiment is that following the injection of the poison there was a period of incubation during which no effect on the body temperature or the weight was to be observed, and that a fall of temperature associated with great bodily prostration and mucoid diarrhœa supervened somewhat rapidly. This fall of temperature and the collapse and diarrhœa observed are, as will be seen, to be ascribed to the action of the chemical poison of the typhoid bacillus.

A more extensive chemical examination of the spleen was

made by means of the precipitation of the extract with alcohol, in order to obtain any albumoses which might be present as well as to separate the alcoholic extract. The method has already been described. The amount of albumoses obtained from each of three spleens was 0·652 gramme, 0·37 gramme, and 0·369 gramme. When dried they formed a fine whitish-yellow and very light powder, soluble in water, and giving a brownish solution, which gave a distinct biuret reaction. The alcoholic extract was yellowish in colour and was separated from the fatty bodies by precipitation with a large excess of ether. It contained a very large quantity of leucin and tyrosin, which separated out in the form of crystals on evaporation. The final alcoholic extract was a yellowish, sticky, resinous-like substance when dried over sulphuric acid. The injection of the alcoholic extract into the vein of a rabbit did not seem to produce any effect on the temperature and no appreciable effect on the body weight. In one case 0·112 gramme was injected and the animal appeared as well after the injection as before. There was no diarrhœa nor were there any symptoms to be noted. The injection of the albumoses also had but slight effect on the animal. In one case 0·2785 gramme was injected in three doses into a rabbit weighing 790 grammes, a dose of 0·352 gramme per kilo. of body weight. After the first injection of about 0·4 gramme there was no effect on the temperature. After the second injection of about 0·12 gramme there was a rise of temperature, the highest point reached being 105° during the day. After the third injection on the following day of the same amount there was only a slight rise of temperature, but on the succeeding days it was again normal. No symptoms were produced in the animal by these injections except a slight rise of temperature. This effect, therefore, is a very different one from that observed after the injection of the saline extract of a fresh spleen. It may have been, of course, that the poison was destroyed by the alcohol during the course of preparation. This, however, is unlikely, inasmuch as the manipulation was very rapid, the products being separated within three days and the alcohol being allowed to act on the albumoses less than eighteen hours.

The Ingleby Lectures
ON
EXTRA-UTERINE PREGNANCY.

Delivered at Mason College, Birmingham, on May 11th, 18th, and 25th, 1898,

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LECTURE III. (*concluded*).[1]

TREATMENT.

THE treatment of extra-uterine pregnancy is essentially operative. This fact is set forth very strongly in the well-known assertion of Werth, who declares that "ectopic gestation must be considered as a malignant new growth and therefore should be removed by operation at every stage of its development." This is a sweeping assertion, and one or two exceptions must be made to it. For example, in the latter half of a tubo-abdominal or tubo-ligamentary pregnancy, when no sign of danger is present, it may be better practice to wait for operation until a time at or about the usual period of delivery when the child is viable and strong than to operate earlier when the life of the child is certain to be sacrificed. Some surgeons have advised that we should go beyond this and wait for operation until after the death of the child so as to have if possible a less vascular placenta to deal with. For my own part, in all cases of later extra-uterine pregnancy with a living fœtus and without any special sign of imminent danger I would choose whenever practicable the most convenient date in the ninth month on which to operate. I would not wait for any sign of spurious labour or seek after exact correspondence with the natural term, but I would endeavour to perform the operation under the best conditions for both lives concerned. Again, occasionally here and there a case of ruptured tubal pregnancy or of tubal mole with peri-tubal hæmatocele recovers without operation, and the fact must be recognised and dealt with. I have seen five or six cases of such recovery and there could be no doubt of the genuineness both of the disease and of the recovery; indeed, in one of these cases, as we have seen, the rupture in the tube and the traces of the old hæmatocele were plainly visible on opening the abdomen some two years later. If my own experience can be regarded as at all general or typical this would give a proportion of about 5 per cent. of all cases observed which may be expected to terminate by process of natural recovery. Is there anything to mark these cases out from all the rest? Not much, I think, for the swelling of the tube, followed by the further tumour of the hæmatocele, the acute attack of abdominal pain and the peritonitic sequel, may all be quite as marked as in the majority of cases. But if the case recovers without operation the pregnancy is usually destroyed by the first (and only) bleeding, and the hæmorrhagic discharge from the uterus, which during the period of abdominal hæmorrhage and pain has probably been irregularly abundant, absolutely ceases with the definite termination of the pregnancy and beginning of absorption, and the patient becomes free from pain. Under these circumstances—cessation of growth, cessation of hæmorrhage, cessation of pain—notwithstanding the pelvic tumour of the distended tube and hæmatocele—it may be right to withhold operation and to give the patient, by rest in bed, by a liberal but non-stimulating diet, and by attention to all excretory functions, an opportunity of natural cure. It is worthy of note, however, that this natural cure is rarely very satisfactory and that it contrasts somewhat unfavourably with operative methods. It requires many weeks or even months of rest for complete absorption to take place and at the close of the process the distortion and fixity of adjacent organs (due to the prolonged presence of the hæmatocele) may still be marked and possibly permanent. In some cases, too, the fœtus may have arrived at a stage of development in which complete absorption is impossible, and if so, although apparent recovery should follow, there may be no finality about it. Months or years afterwards suppuration may occur about the retained fœtus and the evils connected with this prove very much greater than those encountered at the earlier disturbances. Finally, in all cases the danger of waiting—the danger of temporising when any symptom of collapse or pain is present—should be thoroughly recognised and appreciated. So far as we know at present if 5 patients may possibly weather the storm by months of rest 95 patients will die if surgical aid is withheld. Now, what is the prospect or prognosis after surgical treatment? In my own series of cases 37 cases of all kinds are reported with 36 recoveries and 1 death. In Mr. Tait's list published in 1888 we find 42 cases with 40 recoveries and 2 deaths, and in Mr. Mayo Robson's cases recently reported 23 cases with 22 recoveries and 1 death. I have some reason to know that while these results are all very good they are not specially exceptional. If I turn to the statistics of the chief hospital with which I am connected, the Birmingham and Midland Hospital for Women, I find in the decade from 1886 to 1896 that 62 cases of ectopic gestation were operated on with 61 recoveries and 1 death; and smaller series of cases are being frequently reported in the medical journals none of which show any high mortality. The mortality of all cases is not probably more than 5 per cent.

The operative treatment of extra-uterine pregnancy may be considered under two divisions—viz.: (1) operations in the earlier half of pregnancy; and (2) later operations. (1) In the first we must consider—operations for diffuse hæmorrhage and operations for localised tumour, either an intact pregnancy or hæmatocele; and (2) in the second division we shall have to deal mainly with the operative delivery of the mother at or beyond the period of term under tubo-abdominal and tubo-ligamentary pregnancy.

1. Operation for diffuse hæmorrhage may be required in—(*a*) early rupture of the tube; (*b*) later rupture of the tube; (*c*) intra-peritoneal rupture of broad-ligament pregnancy; (*d*) rupture of a peri-tubal hæmatocele; and (*e*) rupture of a tubo-uterine or interstitial pregnancy. The operation here will of necessity involve abdominal section. It will be an operation of emergency. It will have

[1] Lectures I. and II. and the first part of Lecture III. were published in THE LANCET of May 28th, June 4th, and June 18th, 1898, respectively.

to be done at the patient's home—very possibly at night—under uncomfortable conditions and often without skilled assistance. None of these difficulties must be allowed to excuse any laxity in surgical asepsis and therefore the operator must himself be prepared to act as his own chief assistant and by order and method reduce his dependence on others to a minimum. Some kind of operation table is an absolute necessity, for the abdominal cavity will need washing out with warm water. Plenty of boiling water must be available. The operator arranges his portable steriliser, his instruments and his sterilised pads (some of which should be of large size) within easy reach of his right hand so that he can help himself to anything he wants. No time must be lost. When the diagnosis has once been made the operation must be performed at the earliest possible moment consistent with a prepared and cleanly *entourage*. While the patient is passing through the later stage of narcosis the abdominal wall is carefully cleaned with soap-and-water and afterwards with methylated spirit. The incision—made in the middle line—will probably at once disclose some confirmation of the diagnosis, the black colour of the blood within the abdomen showing darkly through the transparent peritoneum On opening this blood and blood-clot pour out freely. The fingers of the left hand are inserted into the abdomen, seize the uterus, and feel at once for the site of pregnancy, the source of bleeding. If, as usually happens, this can be identified by touch it is immediately withdrawn out of the abdomen, the parts below the tube being firmly held so as to stop any further bleeding. The operator then—with his disengaged right hand—takes the needle armed with ligature silk from the steriliser, transfixes the broad ligament below the tube with Staffordshire knot or linked double ligature, ties off the pregnant tube and finally removes it. The abdomen is now thoroughly washed out with blood-warm water, the pelvis is specially cleared of blood-clot, a drainage tube is placed in the pouch of Douglas, and the abdominal incision is closed. After the wound is dressed a binder is applied tightly round the abdomen and if the patient be nearly pulseless she is placed in bed on an inclined bedstead with the lower extremities raised.

The operation itself is often an easy one, but there are difficulties which may interfere with its ready performance. The most important is the impossibility of seeing what one has to do. The blood continues to well up from the pelvis and vigorous sponging may only afford momentary glimpses of the pedicle or broad ligament. In this case pouring clear warm water over the wound and packing some of the larger pads into the pelvis and round the affected tube will often prove of service. Sometimes this difficulty of vision has a more serious bearing. If the pregnancy has already escaped from the ruptured tube it may be no easy matter to detect which is the affected side and where is the source of the hæmorrhage. Under these circumstances the temporary control of the circulation with one or two pairs of Doyen's lighter elastic forceps will allow of the washing out of the abdomen and enable the operator to search for and to find the tubal rent without fear of further loss while the search is still in progress. I always take these forceps to any abdominal operation of emergency; their pressure can be nicely adjusted so that intestine even need not suffer any injury in their temporary grasp, while the higher grades of pressure are sufficient to control the broad ligaments in a case of hysterectomy. Occasionally, when a ligature is difficult or impossible to place, a pair of these forceps may be left on the broad ligament or on the side of the uterus at the close of the operation. A compression of from eighteen to twenty-four hours is usually sufficient. In diffuse hæmorrhage from the rupture and extrusion of a tubo-ligamentary pregnancy the temporary or more lasting use of forceps may be of signal service. The bleeding points may be entirely hidden, furnished largely by branches of the uterine artery; and this or firm plugging with iodoform gauze may be the only way of arresting the hæmorrhage. In tubo-uterine or interstitial rupture with diffuse bleeding—a condition in which surgery has still to win its laurels as victor—the quick recognition of the condition on opening the abdomen will be the first element of success, and the rent on one side in the upper part of the uterus and the different levels at which the tubes appear to enter the uterus should guide the operator to a quick decision. In this case the uterus should be drawn out of the wound, two transfixion pins passed, first through the peritoneum on one side of the incision, then through the uterus well below the tear, and finally through the peritoneum of the opposite side (as in the method described by myself in 1893), a "wire-clamp" applied below these, and the latter screwed thoroughly "taut." The hæmorrhage is then absolutely controlled, and if the clamp be always ready for use the time occupied in effecting this control need scarcely be longer than that which has been used in briefly describing the method. The operator can wash out the abdomen through the upper part of the incision above the clamp, doing this carefully and thoroughly, and if drainage be considered necessary the tube can be adjusted at the upper angle of the wound. When the latter is closed the clamp is again screwed up tightly, the parts above the clamp are cut off and the stump is surrounded with iodoform gauze. The only caution necessary to mention is the danger of any slipping of the broad ligament out of the grasp of the wire before the latter is finally tightened. This is easily avoided by transfixing the broad ligament with the pins or by holding up the appendages with forceps (if these are removed) and by screwing the clamp thoroughly tight before the parts above the wire are finally removed.

Washing out of the abdomen in a simple case of diffuse hæmorrhage, as in early rupture, can often be done by pouring water from a jug directly into the abdomen, but in such a case as I have been considering and in a patient with a deep pelvis containing much blood-clot the use of a syphon tube is more handy and more efficient. By this the stream of water is carried directly to the lowest part of the pelvis and the upward returning stream washes out the blood-clot. This "washing out" should never be omitted in cases of diffuse bleeding. Besides cleansing the peritoneum it is probably a means of conveying some fluid into the depleted blood-stream—and this, followed (after the operation is over) by a nutrient injection containing brandy, and by temporary elevation of the pelvis and lower extremities, is, in my opinion, more useful in overcoming shock and in restoring the pulse than is any attempt at transfusion.

In diffuse hæmorrhage the quickest and directest route to the bleeding vessels is an absolute *sine quâ non* of operative treatment and there can be no doubt that this is attained by abdominal section above the pubes. In localised hæmatocele and in intact extra-uterine pregnancy up to mid-term other methods of operation may be employed besides abdominal section and we shall have to consider vaginal section under its two aspects of posterior and anterior cœliotomy and also the sub-peritoneal incision in cases of anterior tubo-ligamentary invasion. In true retro-uterine hæmatocele, in which the pouch of Douglas is itself distended with blood, posterior vaginal cœliotomy — the direct opening of the pouch of Douglas from the vagina—is obviously the proper method of treatment and no surgeon would probably dream of any other. Under this condition the operation is very simple. A free incision is made in the middle line, the contained blood and blood-clot are gently washed out by a stream of warm water carried within the cavity, nothing is done to interfere with the upper limiting adhesions or roof of the hæmatocele, and after free evacuation the pouch is drained by a tube or by iodoform gauze. In peri-tubal hæmatoceles which occupy the whole or a greater part of the pouch of Douglas an extension of the same method may be employed with advantage, especially if the bulk of the swelling be evidently within the pouch of Douglas. In this case, however, every aseptic precaution is just as necessary as in an abdominal section and before beginning to operate the hair of the vulva is shaved and the vulva and vagina are thoroughly cleansed and disinfected. For this and for the subsequent operation the patient is placed in the "lithotomy" position on a good table and the vagina is kept open by the valuable self-retaining speculum of Auvard. The surgeon sits facing the vulva of the patient and there should be a good light directly behind his head. The patient is anæsthetised previously and is therefore unconscious before any of this preparatory work is begun.

Operation.—The uterus is steadied by volsella applied to the posterior lip of the cervix and the posterior vaginal vault is opened behind the uterus with scissors curved on the flat. On reaching the pouch of Douglas blood and bloody serum will probably be found within it. There are, as a rule, no adhesions at the lowest part of the pouch. On inserting the fingers the tumour of the hæmatocele will be plainly felt and all the lower part of it may be very thoroughly explored especially if the disengaged hand be placed on the abdomen above the pubes and the examination of the mass be conducted "bimanually. During this examination the blood-clot is usually broken down and the

main part of the hæmatocele is cleared away by the vaginal opening. This may be assisted by irrigation from within the pouch of Douglas if the opening be very free and the return current unobstructed. If not it may be wise to restrict oneself to manual or digital removal only. During the process the remains of the pregnancy itself, fœtal and placental or molar, may be evacuated, and sometimes the tube containing a mole of pregnancy may be detached from its adhesions, brought outside, ligatured, and removed. It is, however, rarely necessary to do this or to strive after this unless hæmorrhage be still going on. If the pouch of Douglas be thoroughly plugged and drained by a thick pledget of iodoform gauze after the hæmatocele is broken down and cleaned away nothing more is needed to ensure the conditions essential for the safe and complete recovery of the patient. A few cautions may be necessary with regard to the conduct of this simple operation. It should be an operation of election for certain cases—those are most favourable for its employment in which the vagina is capacious and the tumour is mainly posterior to the uterus. The bladder should be thoroughly emptied immediately before the operation is begun. No violence should be used, the blood-clot and débris should be extracted gently. The gauze drain should rest one half within the peritoneal cavity and the other half in the upper part of the vagina, and no portion of it should protrude or be visible at the vaginal entrance. The urine is better withdrawn by the catheter until the drain is removed on the fourth or fifth morning. The posterior vaginal incision is so direct in its guidance to the seat of pelvic disease in so many cases of retro-uterine tumour that we cannot but wonder sometimes that it has been so little employed. Perhaps one reason may be that its employment is sometimes followed by temporary and occasional neuralgic pain in the back which is rather difficult to account for as it does not occur in vaginal hysterectomy when the incision is wider and circular. I am inclined to think that this is excited by the dragging of the uterus on the partially divided utero-sacral ligaments (or muscles) and that a median antero-posterior opening (when practicable) may be preferable (on this ground only) to a broad transverse incision.

Anterior vaginal cœliotomy or, as it is sometimes called, anterior colpotomy has been extensively used during recent years in the treatment of peri-tubal hæmatocele due to tubal pregnancy. The vaginal vault is opened between the uterus and bladder, the vesico-uterine fold of peritoneum is divided, and the fundus is drawn forwards by volsella out of the abdomen through the opening thus made. The uterus and uterine end of the tube on either side are then under the complete control of the operator and the tube together with any contained pregnancy can, as a rule, be ligatured and removed without much difficulty. But the space in which one has to work is cramped and confined and while the tube may be easy to remove it is not so with the hæmatocele. This often separates from the tube with traction on the latter and it may be very difficult or impossible to remove it afterwards. Some operators appear to regard this as quite immaterial and leave a considerable quantity of blood and blood-clot in the pelvis and abdomen at the close of the operation, providing no drainage, but trusting solely to the absorptive powers of the peritoneum itself for its removal. If the operation has been performed with perfect cleanliness this confidence may be rarely misplaced as regards the final result, but the patients do not recover easily, there being often considerable pyrexia for several days before convalescence is thoroughly established. The main objections to anterior vaginal cœliotomy as a routine method of treatment are the following: (1) occasional insufficient space for operative work; (2) frequent inability to remove thoroughly and cleanly all products of the misplaced pregnancy; (3) inability to wash out the abdomen satisfactorily; (4) inability to drain through the anterior opening; and (5) occasional inability to extract the uterus without injury, the uterus being enlarged and softened by the changes consequent on the associated pregnancy. It may be noticed that most of these objections will lose a great deal of their importance if the operator, the patient, and her friends be prepared and ready to accept the possible sacrifice of the uterus in the course of the operation. If the uterus be already diseased or damaged, justifying its removal as an initial step, the space and opportunities thus acquired are ample for all ordinary requirements; there is room for thorough and careful work, the pregnancy and hæmatocele can be completely removed, the pelvis and lower abdomen may be washed out, and at the close of the operation the most perfect drainage of the pelvic peritoneum can be established by the adjustment of a well-fitting plug of iodoform gauze.

It is, of course, of considerable advantage to the patient to be able to relieve her of her disease without making an abdominal incision and especially so in cases where drainage is a desideratum, abdominal drainage being frequently followed by hernia. But I am inclined to think that abdominal section, in spite of this drawback, is still the better operation, or rather the better route for operative work in every case in which a posterior colpotomy is inapplicable or insufficient. By abdominal section the extent and connexions of the hæmatocele can be accurately explored, the limiting adhesions to omentum and intestine can be carefully separated or broken through, and the whole of the operation from beginning to end can be performed under the most favourable conditions for manipulation and cleanliness. When operating by the abdominal method the diseased tube must invariably be thoroughly defined, ligatured, and removed. It will often have to be unrolled from the back of the uterus after the main tumour of the hæmatocele has been taken away, but the adhesions are almost always light and easy to separate. The adhesions of the hæmatocele-capsule to bowel and omentum are, on the other hand, often especially intimate and when this is the case it is better practice to leave a considerable portion of the hæmatocele capsule adhering to bowel than to make any attempt at their separation.

Dr. Berry Hart has recently described a method of operating in intact anterior tubo-ligamentary pregnancy at mid-term which is sound in principle and may be followed with advantage whenever the conditions permit of its application. In this pregnancy, as we have already seen, the anterior layer of the peritoneum is raised and at mid-term as well as at a later stage there is a space either mesially or above the groin on one side which is uncovered by peritoneum. This can be accurately defined by a preliminary incision in the middle line which opens the abdomen. When this has been done a direct incision is made into the sac of pregnancy below the peritoneal reflexion. This extra-peritoneal wound should be large enough to admit four fingers. The fœtus is removed at once, the sac tamponaded with iodoform gauze, and the placenta allowed to separate and come away slowly with the discharge.

In tubo-abdominal pregnancy at term there is no difficulty in the removal of the child by an abdominal incision. The crux of the operation is the treatment of the placenta. If this be left, sooner or later it will almost certainly become septic and putrid and I have come to the conclusion—contrary to the opinion I formerly held—that in all cases of true tubo-abdominal pregnancy it is wise to remove the placenta. A clear idea of its probable relations and attachments will, I feel sure, do much to make this part of the operation easier and to rid it of much of its otherwise alarming features. Wherever the placenta is, there is the Fallopian tube and it is from this it receives the greater portion of its blood-supply. As we have already seen, sometimes the placenta is still within the tube, absolutely surrounded everywhere by tube, and nothing can be easier than to ligature it off and ensure its complete removal without any loss of blood. When it is within the gestation-sac and mostly covered by reflexions of the amnion, no method, I think, can be better than that I employed in the case (No. 33) already reported under this heading. Accessory vascular attachments to the omentum or abdominal wall are first ligatured and divided, the placenta is slightly tilted up at the most accessible part of its circumference, and forceps are used to clamp its tubal attachments below. The placenta is then removed and the tubal attachments are subsequently ligatured. The most difficult and dangerous form of attachment is that when the amniotic membrane only lines the upper surface of the placenta and all its under surface is attached not only to the tube and broad ligament but also to the parts adjacent (the condition found in Case 3). Still in this case a modification of the plan already described will afford the best chance of success. Sometimes the deeper attachments (uterus and broad ligament) may be seized before separation by the fingers of an assistant. If not, the most accessible route to the under surface of the placenta is searched for and separation is begun. As soon as possible the tubal and uterine attachments are clamped by the lighter elastic forceps of

Doyen, the placenta is peeled off and two or three large sterilised pads are packed into the cavity from which the afterbirth has been removed. Ligatures are applied to the broad ligament and tube and wherever it is possible by so doing to control the bleeding. Where these are useless packing with iodoform gauze will prove, I believe, the best alternative method for control of hæmorrhage. When this is necessary if the original abdominal incision—probably mesial—be decidedly to one side of the placental site, it will be wise to finish the operation by making a secondary abdominal incision immediately above the gauze from which the packing may be readily removed some four or five days later. The very rare condition when the child is abdominal and the placenta intra-ligamentary belongs to a very different category. From a surgical standpoint this pregnancy remains tubo-ligamentary throughout and is governed by the same laws of treatment which apply to tubo-ligamentary pregnancy. And in tubo-ligamentary pregnancy there is no necessity for the operative removal of the placenta. If the sac be drained the placenta will itself separate and come away with the discharges; this usually takes place without any pyrexia or constitutional disturbance.

Let us take the simpler form of tubo-ligamentary pregnancy first—the posterior or retro-peritoneal variety—and consider the operation necessary for its relief. In this the peritoneal cavity is always opened by the abdominal incision. Within the abdomen full and bulging like a pregnant uterus is the sac of pregnancy. This is opened by an incision directly underneath the abdominal wound, the edges of this are held against the edges of the abdominal incision, the child is extracted and after ligature and division of the cord is entirely removed. Now it may be possible to remove the placenta with safety from the interior of the sac, especially when the infant has been dead for weeks or months, and by so doing, if no serious hæmorrhage is occasioned, convalescence may be very much shortened. If there be any doubt, however, if the placenta be full of blood and firmly attached, no interference is necessary. The incision in the sac is sewn to the abdominal wound, the cord is left hanging out of its lower angle and the sac is drained. I am aware that many modern writers have advised a much more radical and sweeping method of treatment. Dr. Dunning, in the case I have already quoted, proceeded to extirpate the sac and very naturally, as anyone who studies the specimen depicted in Fig. 22 will easily understand, had to complete his operation by removal of the uterus. Fortunately the patient recovered, but I cannot agree with the practice adopted. It is altogether unnecessary and any temporary advantage secured by it is dearly purchased at the cost of increased danger and extensive mutilation. In the similar case reported by myself (Case 4) and treated by the simpler method of drainage the patient not only made a good recovery, but has since had a normal pregnancy with safe delivery of a healthy child. In the anterior or sub-peritoneal-abdominal form of broad ligament pregnancy the same remarks apply, but the sac may sometimes be opened at a part uncovered by peritoneum. If some part of the child is obviously almost subcutaneous (and that is most likely to be found on one side of the middle line) the sac may be opened at once and the operation of removal of the child and drainage of the sac conducted without opening the abdominal cavity or seeing the peritoneal membrane. More frequently, perhaps, if the incision has been median, the peritoneal cavity will be opened at the beginning of the operation. If so the displacement of the peritoneum can be accurately estimated (as in the operation for mid-term ligamentary pregnancy) and a secondary incision can be made directly opening the sac, through which the child is removed and drainage established. The mesial exploratory incision is closed by suture.

Now we can return to the consideration of the complicated form of pregnancy in which the child is abdominal and the placenta intra-ligamentary. The main indication in this form would be, as I believe, to convert the complex "tubo-ligamentary-abdominal" pregnancy[2] into a simple tubo-ligamentary one. After the fœtus has been removed this may, perhaps, be effected by sewing the laceration of the sac to the abdominal wound. If the opening in the sac be inconveniently situated for this the (divided) cord may be dropped inside the sac, the edges of the laceration turned in, and the abdominal opening in the sac closed by suture. Then either before or after closure of the abdomen a large opening is made by vaginal section into the most dependent part of the sac, the cord is drawn down into the vagina, and the rest of the wound and the lower part of the sac are plugged with iodoform gauze.

[2] See THE LANCET, June 4th, 1898.

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BLOOD-PRESSURE IN THE INSANE.

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PATHOLOGICAL conditions in the brain and elsewhere in patients suffering from insanity furnish a most important field for research, but up to the present results can hardly be said to adequately correspond to the time and labour expended. There are seen clinically, cases of intense mental disturbance which after death macroscopically and microscopically show, with the methods at present at our disposal, little or no pathological change. The fact that in an asylum it is far from uncommon to see some patients recover from marked mental aberration to apparent health within a few hours, and also in other patients the fact that after death often nothing abnormal can be discovered, has suggested to me that perhaps some light might be thrown upon the pathology of mental disease by making a systematic study of the blood-pressure in the insane. I cannot help thinking that sufficient stress has not been laid upon the important part that vaso-motor disturbances play in acute types of insanity. That vascular disturbances do exist has doubtless been long recognised, but the forms which the disturbances take have so far not been successfully worked out. The subject being a very large one I must confine myself to viewing it in a broad light and propose to discuss in this paper: (1) whether certain forms of insanity fall under definite heads so far as blood-pressure is concerned; (2) if, as seems probable, they can be arranged in such definite groups, whether in a given case the nature of the insanity is the result of the altered blood-pressure or the cause of it; and (3) if the insanity be caused by the altered blood-pressure what line of treatment suggests itself?

I have examined a large number of insane patients at Bethlem Royal Hospital as to their blood-pressures and have found that they show a marked tendency to fall under two large groups—namely, Group I.: Persons with excitement who have a low blood-pressure; and Group II., persons with depression who have a high blood-pressure.

In making these investigations I have used Barnard and Hill's sphygmometer. In all cases the metal band was placed round the left arm of the patient and in those cases in which the arms were very thin I placed a folded towel along their extensor surfaces in order to equalise as nearly as possible

the circumference of the arms in every case. All investigations, with the exception of a few to be mentioned later, were made at the same time of day, namely, between 11 A.M. and 12 noon, in order that meals might falsify the results as little as possible. No drugs were administered for some time before the investigation. The condition of the bowels was noted in all cases. In all cases I had each reading verified by one or two other persons. I find that the blood-pressure in the ordinary healthy individual taken at the time mentioned is usually about from 120 to 125 mm. of mercury, but here again variations exist—viz., an excitable active person has a lower blood-pressure than the apathetic individual. The patients upon the examination of whom I have based my investigations are all individuals whose vascular systems, so far as I could discover, were normal and in whom I could make out no definite organic disease or degeneration to account for the blood-pressure changes.

The following is an abstract from my data:—21 female patients suffering from acute melancholia give an average of about 150 mm., the range being between 140 mm. and 160 mm. of mercury. Usually the more profound the depression the higher the blood-pressure. In 15 cases of acute melancholia in male patients the average for the blood-pressure was from 140 to 145 mm., the range being from 135 to 160 mm. This is not quite so high as with the women, but the depression was as a rule less marked in the men than in the women. The depression improved as the day went on in a certain number of cases and in these cases the blood-pressure was lower towards evening, as is well shown in Table I.:—

TABLE I.

Case.	Time.	Blood-pressure.	Pulse.	Remarks.
Mr. A. ...	Morning.	160 to 170 mm.	72	Bowels open; very depressed.
	Evening.	150 mm.	72	Bowels open; less depressed.
Mrs. B. ...	Morning.	155 mm.	74	Bowels open; very depressed.
	Evening.	135 mm.	72	Bowels open; less depressed.
Mr. C. ...	Morning.	160 mm.	74	Bowels open; very depressed.
	Evening.	140 mm.	74	Bowels open; less depressed; employing himself reading.
Mr. D. ...	Morning.	165 mm.	68	Bowels open; very depressed.
	Evening.	140 mm.	69	Bowels open; less depressed; will converse readily.
Miss E....	Morning.	150 mm.	76	Bowels open; very depressed.
	Evening.	135 mm.	74	Bowels open; less depressed; working.

A certain number of depressed patients whose blood-pressure I have been investigating have now recovered or have greatly improved and it is instructive to note the changes in the blood-pressure. (See Table II.)

With regard to cases of stupor I regret to say that I have only been able to examine the blood-pressure in two instances and these were not well-developed cases. Miss A.: Blood-pressure, 150–160 mm.; bowels open; pulse, 62. Mrs. B.: Blood-pressure, 150 mm.; bowels open; pulse, 72. This latter patient is now nearly well and has been for some weeks, and the records at present are:—Mrs. B.: Blood-pressure, 125 mm.; bowels open; pulse, 73.

Turning to cases of excitement I have investigated the blood-pressure in 11 male patients with acute mania and they give an average of from 105 to 110 mm. of mercury pressure; 5 of the cases were about 105 mm. The 22 cases of female patients with acute mania likewise give an average of from 105 to 110 mm. Some of the cases were as low as from 95 to 100 mm. One patient who was very excited and restless gave a blood-pressure of 180 mm., but she was found to be suffering from chronic renal disease.

A certain number of patients have recovered or improved during the period of investigation and I will give the figures showing the improvement in the blood-pressure. (See Table III.)

There is one interesting case of a woman who was depressed for a long time and whose blood pressure was always about 150 mm. She then improved and was apparently well and went to our convalescent hospital. At this time her blood-pressure was 125 mm. After being in the country for about six weeks she became excitable and sleepless and was brought back to the hospital, when I found that her blood-pressure was from 105 to 110 mm.

Up to the present time I have not had a case of circular insanity, but judging from the last patient and from the data of those cases which are at one time excited and at others depressed it seems more than probable that the blood-pressure will vary with the mental condition; that is, that it will be raised when the person is depressed and the reverse for excitement, but that during the period of apparent health it will be about normal.

The general paralytics whose blood-pressures I have investigated have not been especially suitable cases, as, except for six, they have been rather far advanced in the disease. (See Table IV.)

TABLE II.

Case.	Date.	Blood-pressure.	Pulse.	Remarks.
Mr. A. ...	Nov. 11th, 1897.	145 mm.	72	Bowels open; depressed.
	March 20th, 1898.	120 mm.	72	Bowels open; well.
Mr. B. ...	Jan. 18th, 1898.	160-170 mm.	72	Bowels open; very depressed.
	March 20th, 1898.	135 mm.	70	Bowels open; discharged relieved.
Mr. C. ...	Jan. 24th, 1898.	150 mm.	64	Constipated; very depressed.
	April 27th, 1898.	125 mm.	76	Bowels open; discharged well.
Mr. D. ...	Jan. 18th, 1898	140 mm.	77	Bowels open; depressed.
	April 11th, 1898.	120 mm.	72	Bowels open; nearly well.
Mr. E. ...	March 20th, 1898.	150 mm.	72	Bowels open; depressed.
	April 22nd, 1898.	130 mm.	70	Bowels open; nearly well.
Mrs. F....	Dec. 9th, 1897.	150 mm.	78	Bowels open; very depressed.
	April 28th, 1898.	120 mm.	76	Bowels open; much better.
Miss G....	Dec. 9th, 1897.	140 mm.	110	Constipated; depressed.
	April 22nd, 1898.	120 mm.	78	Bowels open; much better.
Mrs H....	Jan. 6th, 1898.	150 mm.	68	Bowels open; very depressed.
	March 3rd, 1898.	125 mm.	70	Bowels open; nearly well.
Mrs. I. ...	Jan. 6th, 1898.	140 mm.	78	Bowels open; very depressed.
	April 11th, 1898.	130 mm.	76	Bowels open; much better.
Miss K....	March 3rd, 1898.	150 mm.	72	Bowels open; very depressed.
	April 22nd, 1898.	125 mm.	74	Bowels open; much better.
Mrs. L....	March 17th, 1898.	150 mm.	72	Bowels constipated; very depressed.
	April 28th, 1898.	120 mm.	70	Bowels open; well.

Thus it appears clearly that in most acute forms of insanity the blood-pressure is markedly altered, the greatest variation being between an excited patient and one who is profoundly depressed. In depression with motor restlessness, the so-called agitated melancholia, so far as my evidence goes, the results are somewhat varied. When the restlessness becomes extreme sometimes the blood-pressure gives a low reading.

In stupor it would appear from my data that the blood-pressure is high, even more so than in ordinary melancholia, but in those cases of stupor which are secondary to mania, when the condition is due to exhaustion, the blood-pressure is inclined to be low. This also applies to depression following upon an acute attack of mania, when the depression is more exhausting in character and is not a true melancholia and the blood-pressure is usually low. In delusional insanity, when the mental disorder is ideational, in contradistinction to the affective or emotional forms of insanity, the blood-pressure does not always seem to greatly differ from the normal blood-pressure of a healthy individual.

The tendency is for it to be raised, but this is only to a marked extent when the patient is troubled and worried. For instance, at present there is residing in the hospital a man who is a paranoiac with delusions of persecution. These delusions are always present but vary in intensity. When he is fairly comfortable his blood-pressure is about from 130 to 135 mm., but when much worried by his delusions his blood-pressure rises to from 160 to 180 mm.

In general paralysis of the insane, as I have already mentioned, the cases which I have had at my disposal have not been very favourable for investigation. Excited general paralytics seen to follow the ordinary rule for excited cases and have a low blood-pressure and when the excitement passes off the blood-pressure is found to be normal. In very exalted general paralytics the pressure is high in the cases which I have investigated, but this requires more investigation as the number of exalted cases was limited. The blood-pressure of general paralytics in the later stages, whatever may have been the previous mental condition, as in the acute maniacal general paralytics, is low. Dr. Mott[1] has been working at the cause of the degeneration in general paralytics; he considers that there is a source of auto-intoxication in those patients from the products of the disintegration that is going on in the nerve tissue of the brain. Cholin is the poison to which he attaches much importance. Now it has been found by experiment that cholin lowers the blood-pressure and this may be the cause of lowered blood-pressure in advanced general paralytics and in those early cases of general paralysis where there is much waste of brain substance going on.

Hence from the foregoing it would seem that the blood-pressure is most disturbed in affective forms of insanity—that is to say, where there is some disturbance of the emotions. Further, in all cases which have recovered during the period that I have been making these investigations I have found that the blood-pressure has been normal when the patient was considered well enough to leave the hospital. This statement also applies to general paralytics who have passed into a condition of remission and who for the time being must be considered well; when the remission terminates and the symptoms of general paralysis again establish themselves the blood-pressure once more follows the general rule of being high for depression and low for excitement.

TABLE III.

Case.	Date.	Blood-pressure.	Pulse.	Remarks.
Mr. A.	Oct. 26th, 1897.	105 mm.	100	Bowels open; excited.
	Dec. 20th, 1897.	125–130 mm.	76	Bowels open; nearly well.
	Jan. 18th, 1898.	110 mm.	70	Bowels open; relapsed; excited.
	Feb. 10th, 1898.	125 mm.	76	Bowels open; convalescent.
	Feb. 26th, 1898.	105 mm.	88	Bowels open; excited again.
	April 11th, 1898.	110 mm.	86	Bowels open; still excitable.
Mr. B.	Oct. 20th, 1897.	110 mm.	90	Bowels open; excited.
	April 11th, 1898.	120 mm.	74	Bowels open; nearly well.
Mr. C.	Dec. 20th, 1897.	105 mm.	86	Bowels open; excited.
	April 27th, 1898.	125 mm.	76	Bowels open; nearly well.
Miss D.	Oct. 15th, 1897.	105–110 mm.	100	Bowels open; very excited.
	Jan. 14th, 1898.	125 mm.	78	Bowels open; well.
Miss E.	Jan. 14th, 1898.	110 mm.	86	Bowels open; excitable.
	Feb. 20th, 1898.	130 mm.	76	Bowels open; well.
Miss F.	Jan. 20th, 1898.	100 mm.	92	Bowels open; very excited.
	April 28th, 1898.	125 mm.	88	Bowels open; quiet and better.
Miss G.	Jan. 20th, 1898.	105 mm.	110	Bowels open; excited.
	April 28th, 1898.	120 mm.	86	Bowels open; better.
Miss H.	Jan. 6th, 1898.	110 mm.	100	Bowels open; excited.
	Jan. 20th, 1898.	140 mm.	94	Bowels open; depressed and weeping.
	Feb. 8th, 1898.	115 mm.	90	Bowels open; excitable.
	April 28th, 1898.	120 mm.	76	Bowels open; nearly well.

I now pass to the second question: Is the insanity the result of the altered blood-pressure or the cause of it? Of the importance of this question there can be no doubt, for if perchance we could prove that the altered blood-pressure in any way may produce mental disorder in certain individuals we have at once the golden key for the treatment and possible cure of those forms of insanity where the change is purely functional in character. When we begin to weigh the evidence which we have at our disposal we find that that in favour of the altered blood-pressure being responsible for mental disorder is not only abundant but in many respects weighty. I shall therefore deal with this first. We are all cognisant of those cases of mental disorder in which a patient within a few hours passes from marked insanity to apparent health. It is more common in states of excitement than in states of depression and it is extremely difficult to explain except from the standpoint of some very mobile mechanism. Now the vascular system is an apparatus of this nature. Dr. Leonard Hill[2] has shown that the arterioles in the splanchnic area are the regulators of the blood-pressure in the brain and to a large extent the question whether the blood-pressure be increased or not in the cerebral area depends upon whether they are relaxed or contracted. Everyone is probably acquainted with the feeling of depression which accompanies a loaded bowel and in the mental relief when the constipation is overcome. Some would say that the feeling of depression was autotoxic in origin, but surely the mental relief is too rapid for it to be due to any such cause. Again, in the insane, especially with melancholia, constipation is often the prevailing symptom and frequently by attending to the bowels regularly with salines, mild

TABLE IV.

Case.	Date.	Blood-pressure.	Pulse.	Remarks.
Mr. A.	Oct. 9th, 1897.	100 mm.	86	Bowels open; excited.
	Nov. 11th, 1897.	110 mm.	68	Bowels open; better.
	Dec. 14th, 1897.	115 mm.	66	Bowels open; in remission.
Mr. B.	Nov. 1st, 1897.	110 mm.	78	Bowels open; excitable.
	April 11th, 1898.	120 mm.	70	Bowels open; remission.
Mr. C.	Oct. 9th, 1897.	100 mm.	88	Bowels open; very excited.
	Nov. 1st, 1897.	115 mm.	80	Bowels open; remission.
	April 17th, 1898.	105 mm.	84	Bowels open; excited.
Mr. D.	Nov. 11th, 1897.	150 mm.	74	Bowels open; ataxic, quiet, and depressed.
	Dec. 14th, 1897.	105 mm.	100	Bowels open; excited.
	April 2nd, 1898.	115 mm.	86	Bowels open; better.
Mr. E.	Nov. 11th, 1897.	160 mm.	76	Bowels open; very exalted.
Mr. F.	Jan. 18th, 1898.	140 mm.	70	Bowels open; exalted.
	Dec. 14th, 1897.	105 mm.	80	Bowels open; excited.
	April 11th, 1898.	120 mm.	72	Bowels open; remission.
Mr. G.	Dec. 14th, 1897.	140 mm.	72	Constipation; depressed.
Mr. H.	Nov. 1st, 1897.	106 mm.	78	Bowels open; depressed case last stage.
Mr. I.	Nov. 1st, 1897.	100 mm.	72	Bowels open; depressed case last stage.
Mr. K.	April 11th, 1898.	100 mm.	80	Bowels open; exalted last stage.

[1] Vide Annual Report, Asylums Committee, London County Council, 1896.

[2] Vide Cerebral Circulation: L. Hill.

laxatives, and enemas the depression soon disappears. May it be that the mere mechanical effect of a fæcal accumulation upon the splanchnic vessels causes the rise of cerebral blood-pressure? At the end of February we admitted a man into this hospital who was suffering from marked depression, this being his third attack within the last thirty years. The day after admission I took his blood-pressure and found it to be 190 mm. and the pulse slow. The bowels were very constipated and acted but slightly to a soap-and-water enema. Two days later he had a severe convulsion. Not having any physical signs of general paralysis the convulsion seemed to be due to constipation. A large oil enema was administered and he passed a huge amount of fæcal matter; three hours later the blood-pressure was 140 mm. and he was much better and remained so for the next few weeks, but the depression unfortunately returned again later and with it increased blood-pressure. In this case probably sensory irritation was the cause of the convulsions. Dr. Leonard Hill has observed that stimulation of any sensory nerve causes a rise of general arterial pressure and intracranial or cerebral venous pressure passively follows this rise. May this not be the explanation of the feeling of depression which occurs with some cases of constipation, especially those which are at once relieved by a free purge? Professor Clifford Allbutt has laid stress upon this important point in a paper read before the Hunterian Society in 1895 upon Senile Plethora. He reports some cases of high blood-pressure in which there was a certain degree of depression and insomnia, and all the patients improved upon laxaties and salines. My observations were made before my attention was drawn to Professor Allbutt's paper, and I find that in every respect my investigation corroborates this work. In my cases, as with those of Professor Allbutt, I have confined myself to those patients whose altered blood-pressure did not in any way seem to be due to any arterial degeneration. Though I have not been able to corroborate this by post-mortem examination the fact that most of my cases were comparatively young persons and that many of the patients recovered and that the blood-pressure returned to normal is strong evidence that there was no organic cause for the altered blood-pressure. If a patient had albumin in his urine or any suspicion of vascular degeneration I rejected any observation that I made from him at once. We may have a functional psychosis occurring at any period of life and I find that the blood-pressure is raised alike in all. Again, an argument in favour of the altered blood-pressure being a determining cause in mental disorders is the action of drugs; nitro-glycerine, which I have tried in a few cases, lowers the blood-pressure. In one, that of a woman actively depressed and a victim to that symptom so common in melancholia, a feeling of weight and oppression upon the top of the head, I found before commencing to administer nitro-glycerine that her blood-pressure was constantly about 150 mm. Two days after taking $\frac{1}{100}$ gr. of nitro-glycerine three times a day the blood-pressure had fallen to 135 mm. and she was feeling better and the head was relieved. The dose being increased to $\frac{1}{75}$ gr. three times a day she improved further and the blood-pressure fell to 120 mm. and the feeling of weight was gone. If the medicine was left off she soon relapsed and the head symptoms returned. In another case I obtained similar results, but I found, as others have described, that the effect of nitro-glycerine soon passes off, that it cannot be always relied upon, and that it is not easy to keep the blood-pressure low. In other cases I have treated with erythrol tetra-nitrate, a drug the value of which as a vaso-dilator has been demonstrated by Professor Bradbury, many seemed to get immediate relief from its use, both so far as the head symptoms were concerned and also the depression lessened with the fall of the blood-pressure.

Passing for a moment from cases of depression to maniacal cases in which the blood-pressure is low I have observed the effect of the prolonged bath upon the blood-pressure in 3 cases. The prolonged bath as used here is an ordinary bath with a lid fitting upon the top. The patient sits in the bath, the head being the only part above the lid. The temperature of the water, to begin with, is about 97° F. The patient is in the bath for half an hour the first day, and the time is steadily extended up to seven or eight hours per diem, meals being taken while in the bath. It has long been observed that certain patients who are usually excited and incoherent will converse rationally and calmly during the period in which they are in the bath.

In one case before commencing the bath the blood-pressure was 105 mm. and the patient was very excited; after the bath her blood-pressure was from 120 to 130 mm. and she was quiet and reasonable; after having the bath regularly for nine days she began to keep well between the baths and they were consequently stopped. She subsequently continued to make progress and her blood-pressure remained about 130 mm.

In the second case the patient before the bath used to be each morning excited, the blood-pressure was 100 mm., and the pulse was 80. Upon being taken out of the bath in the evening she was quiet and the blood-pressure was 120 mm. Unfortunately the improvement did not last and she left the hospital uncured.

In the third case the blood-pressure before the bath was 100 mm. and after 105 mm.; little good was thus done and the excitement did not abate much. But this case was a chronic one, the patient had been ill some years, with, I fear, little chance of recovery.

From time to time we have had rapid recoveries in the past from the use of the prolonged bath; the cases which do well are always maniacal cases, and this agrees with what I have found, that the prolonged bath raises the blood-pressure. Melancholiacs do not do well with the prolonged bath and it is what we should now expect, as it merely raises the blood-pressure higher instead of relieving it.

Again, bearing upon the effect of blood-pressure on the mental condition, we have the interesting cases of insanity developing in persons suffering from cardiac disease. When the patient is a victim to aortic regurgitation and the blood-pressure is low and ill-sustained the general rule is for the form of insanity to be maniacal in character, whereas when the cardiac trouble is due to disease of the mitral valve the blood-pressure is raised and the patient is usually depressed. Looking through the case books of Bethlem Hospital I find that out of 7 patients recorded as suffering from aortic regurgitation during the last three years there was excitement in 5 cases and that, on the other hand, out of 23 patients affected with mitral disease 20 showed melancholic symptoms. As these patients, except for unstable heredity in some cases, had no other cause for insanity save the cardiac trouble, they rather lend support to the view that alteration of blood-pressure in certain individuals may assist in some way in producing mental disorder.

Further, how often has it been noted that sudden profuse hæmorrhage as the result of an accident produces delirium, and what is delirium but a temporary insanity? Now if infusion with saline solution is performed the delirium at once ceases. With profuse hæmorrhage there is a rapid fall of blood-pressure, but the pressure is re-established after infusion.

With regard to the effect of gout upon the blood-pressure the evidence is conflicting and personally I have not been able to test any cases with the sphygmometer. But if those observers are correct who say that owing to the blood condition the blood-pressure is raised we have further support in favour of the effect of blood-pressure upon mental states. For not uncommonly an attack of gout is ushered in by insomnia, depression, and irritability.

Again, it has been observed that the blood-pressure falls physiologically during the day, as if, as Dr. Leonard Hill says, the vaso-motor centre was less able to maintain splanchnic constriction. If this were the case the melancholiac should improve as the day advances and the maniac grow worse, and this is precisely what does happen. Depression is always more profound in the morning and suicides are common about 6 A.M., whilst toward evening the misery is less or gone and the patient employs or amuses himself, but this is only temporary, as the depression returns with the break of day. On the other hand, the maniac in the morning is at his best, for throughout the day the excitement increases, and how often about 4 P.M. are we requested by attendants or nurses to permit them to put a maniacal patient to bed because he or she has become so very excited and restless.

Finally, in a few cases I have observed the blood-pressure to be low for a day or two before excitement supervened.

Against the view that altered blood-pressure may cause mental disorders we have the fact that the blood-pressure may be high or low in a number of individuals who never become insane. But is this not what we should expect? A large number of persons drink, but comparatively few develop insanity as the result of alcohol; syphilis is common, but syphilitic insanity and general paralysis of the insane are comparatively rare. Like many other diseases we must have a predisposing cause which lowers the resistance of the

individual in some important particular before a given stress can act with harmful result. In insanity we legitimately anticipate that the most common predisposing cause is heredity, for it is a factor that a neurotic inheritance is present in a vast majority of cases. I do not for one moment believe that any amount of altered blood-pressure could, *per se*, produce insanity in a perfectly stable person, for the causation of insanity is no such simple problem; but given an individual with an unstable nervous system the probabilities are reversed, and we may now have the vascular mechanism more readily affecting mental states. On the other hand we may have to come to the conclusion that the blood-pressure has little or nothing to do with the production of insanity; they may have no relationship, but may each be dependent upon a common cause. In support of this latter view is the following interesting case which was recently admitted into Bethlem Hospital. A woman with a neurotic inheritance, who had had a previous attack of insanity and had recovered, applied for admission as a voluntary boarder as she was suffering from insomnia and a feeling of irritability. The blood-pressure was about 130 mm. Next day she was more restless and the blood-pressure was 110 mm. The following day the excitement had greatly increased, she was destructive and very restless and talkative, and the blood-pressure was 105 mm. In this patient the blood-pressure fell almost *pari passu* with the increase in excitement.

The next question, Can insanity cause an alteration in the blood-pressure? is a much more difficult problem to discuss. That the two—insanity and altered blood-pressure—co-exist we cannot doubt, but there is but little in favour of the view that insanity causes the altered blood-pressure. Some support is lent to this view by the fact that though in a case of delusional insanity the blood-pressure has for some period continued normal, an access of worry on the score of delusions and a corresponding emotional disturbance is found to affect the pressure of the blood. From this it may be argued that emotional forms of insanity may produce an alteration in the blood-pressure, a conclusion which appears to be corroborated by the fact that those persons who physiologically are excitable have a comparatively low blood-pressure, whilst the normally lethargic individuals have a comparatively high pressure. Again, there is the record of the case of the voluntary boarder whose blood-pressure fell steadily as the excitement developed. Also, those cases which I have recorded where the blood-pressure varies with the mental condition somewhat favours the view that the altered blood-pressure is due to the emotional disturbance. Against this theory that insanity may produce alteration of blood-pressure is the action of drugs, such as erythrol tetra-nitrate, nitro-glycerine, laxatives, &c., for by improving the blood-pressure not uncommonly the mental state likewise improves. Further, the improvement which takes place in melancholiacs as the day advances and the reverse in maniacs might indicate that the physiological fall of the blood-pressure towards evening in some degree produces this result.

We must now turn to the treatment of the insane as indicated by the observations I have made as to altered blood-pressure. Whether the variation in blood-pressure in any way produces disorders of mental state we are not at present able to make any dogmatic statement. But I feel that it is not too much to say that probably the general lines of treatment can be indicated to no small an extent by observing the blood-pressure in any given case. This statement is borne out by the fact that I have found that a certain number of patients have improved, and others have recovered, by directing the treatment to re-establishing a normal condition of blood-pressure. Sulphate of magnesia has been described as an excellent tonic, and so it is, especially when we have to deal with a case of incipient melancholia. I have seen a number of young persons who were on the verge of melancholia who have been saved from crossing the line which separates sanity from insanity by sulphate of magnesia. Professor Allbutt has already reported some cases of senile plethora which recovered with salines and aperient waters and other treatment directed to lowering blood-pressure. If the case is an early one aperient treatment coupled with a liberal allowance of light diet and regular exercise will be all that is required. If the patient has passed into deeper depression the lowering of blood-pressure by aperients may be with advantage amplified by other medication. There is one symptom which perhaps distresses the patient more than any other, and that is the headache and constant feeling of pressure upon the top of the head. Now this symptom seems certainly to be vascular in origin and often the higher the blood-pressure the more severe the distress. This symptom I find is greatly relieved by nitro-glycerine. Unfortunately, as I have already pointed out, the relief obtained by nitro-glycerine is often very temporary and an hour or two after taking the drug the pain has returned. Professor Bradbury, in his Bradshaw Lecture of 1895, in commenting on the evanescent action of this drug, has pointed out that erythrol tetra-nitrate is more reliable and also that its effect as a vaso-dilator is more permanent and that the benefit derived by its use is present for some hours after. So far I have only tried its action upon a few patients, but the results are most encouraging, as a relief is undoubtedly more lasting and greater than with nitro-glycerine. In some instances the improvement has been most marked; a man who had spoken but little, after two ½ gr. tabloids of erythrol tetra-nitrate volunteered remarks to the attendants and has steadily improved since. Another man says that he has felt much clearer and better since he "started the new medicine" and now reads and employs himself. A woman who was very agitated and depressed, two days after commencing to take erythrol tetra-nitrate was found employing herself at needlework, a thing which she had never previously done since admission, and she told me that she felt much better and has continued to be so up to the present time. Morphia has long been known as a useful drug in some cases of melancholia; but its use has always been very restricted in maniacal cases, as little benefit seemed to be derived from its administration. The explanation has, so far as I know, never been given, but the fact is interesting, though it is now what we should expect in the light of my recent observations, as morphia lowers the blood-pressure by relaxing the arterioles in addition to its action as a hypnotic.

While working at the subject of blood-pressures I have observed that in a few cases the amount of blood in some patients seemed to be much below normal, and it was absolutely impossible to obtain a reliable reading of what the actual blood-pressure was. If these individuals are ordered large quantities of warm water daily the improvement is at once most marked. In some cases I have ordered half a pint of water to be injected into the rectum night and morning with good results. So far I have not tried infusion, but I believe that this might be most beneficial in some cases. Two years since we admitted a patient into Bethlem Hospital who upon admission was in a comatose condition and who died a few hours later. At the post-mortem examination we found that there was a great scarcity of fluids in the organs of the body. Everything was dry and there was no cerebro-spinal fluid in the various cavities. Probably if infusion had been performed in this case, life might have been prolonged, or may-be the patient cured.

To turn to the treatment of those patients whose blood-pressure is sub-normal I have already mentioned the use of the prolonged bath in certain excited individuals. So far I have not observed the action of the prolonged bath upon the blood-pressure of a sufficient number of cases to derive any very reliable data, but the action seemed very definite in two out of the three patients and the effect more than suggests why the prolonged bath should be beneficial to maniacal persons but useless as a rule to the depressed. The latter fact has been observed at Bethlem Hospital for some years, but we had never been able to obtain any satisfactory explanation.

In conclusion, to summarise the foregoing observations I find: 1. That the blood-pressure varies in different forms of insanity. 2 That the blood-pressure is raised in persons who are depressed or who are suffering from melancholia. 3. That the blood-pressure gives varied results in persons suffering from melancholia with motor excitement—so-called agitated melancholia. 4. That the blood-pressure is found to be normal upon the recovery of a patient whose blood-pressure has been raised during the period of depression. 5. That the blood-pressure is lowered in persons suffering from excitement or acute mania. 6. That the blood-pressure is found to be normal after the excitement has passed off and the patient has recovered. 7. That the blood-pressure tends to fall as the day advances, hence melancholiacs tend to improve and excited patients become more excited. 8. That the depression following upon an attack of acute mania is not necessarily an active depression, but rather more exhaustive in type, and that the blood-pressure in these cases may remain low until it finally returns to normal upon recovery. 9. That the blood-pressure is probably raised in

stupor. 10. That the blood-pressure is not always altered in delusional insanity except in those cases where there is also some emotional disturbance. 11. That the blood-pressure in healthy, active, and excitable persons is low as compared with healthy but apathetic individuals. 12. That from this it would seem that the blood-pressure is chiefly affected in emotional or affective insanities in contra-distinction to the effective or ideational forms of mental disorder. 13. That the blood-pressure is raised in general paralysis of the insane when there is depression, whereas in the excited types of this disease the blood-pressure is low, as it is also in the later stages of all types. 14. That there is evidence to prove that the altered blood-pressure may in certain individuals induce mental aberration, but that it is so far not complete enough to enable me to state definitely that mental disease is usually caused by altered blood-pressure. 15. That the altered blood-pressure in different forms of insanity suggests the line of treatment which may be adopted in the various kinds of mental diseases. 16. That the feeling of weight and pressure upon the top of the head, so common a symptom in melancholia, is apparently vascular in origin and is lessened or disappears when the blood-pressure is lowered. 17. That certain depressed patients improve with nitro-glycerine but that there is difficulty in keeping the blood-pressure down with this drug as its action is so evanescent. 18. That the action of erythrol tetra-nitrate it more prolonged and reliable and is more powerful in lowering the blood-pressure in melancholia than is nitro-glycerine. 19. That the prolonged bath raises the blood-pressure and hence is of more value in the treatment of excited patients.

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NOTE ON LUMBAR COLOTOMY.

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MY letter on this subject in THE LANCET of May 21st has brought so much correspondence that I think it well to answer inquiries regarding it in a further note.

I have intended for a long time to write fully on this operation because it has been so needlessly complicated that at one time it seemed as if it would fall into disrepute. There came a "boom" on behalf of inguinal colotomy which was useless and has proved disappointing so far as I can learn. Personally I never gave any countenance to inguinal colotomy save in one case, where I had abundant reason to be dissatisfied with it. I have had every reason to be satisfied with the older operation so far as my own results were concerned, and there were arguments in favour of it as against the operation in the groin which seemed to me convincing. Thus there were of necessity many cases where the effects of the disease in the matter of obstruction were not overcome by inguinal colotomy or where the disease advanced into and above the opening which were not so affected in the event of the performance of lumbar colotomy. In fact, I have never seen a case of lumbar colotomy where the beneficial effects were destroyed by the progress of the disease. Again, it has been found, as might have been expected, that uncomfortable eversion of the gut after inguinal colotomy has been far more frequent and extensive than it ever is after the lumbar operation. Other and less important arguments also affect my choice in favour of the higher opening, amongst which is the efficiency in most cases of the imitation sphincter to which I alluded in my letter of May 21st.

I have had a number of cases of the curious non-malignant stricture of the rectum found in women, but never yet described as having been seen in men, where I have relieved the patients by lumbar colotomy, the patients living in fair comfort with the new passage after the gut below has atrophied. One of them has lived now twenty-four years since the operation and I have seen her within the last few days. According to her account she has notice of the need of an evacuation and control over the aperture very much as she had some thirty years ago before the disease attacked her. Such an amount of relief is not of course obtained in the great mass of such operations performed, for the disease is malignant in probably 98 per cent. of the cases.

There is a new group of cases at present in existence where colotomy seems more urgently needed than in any formerly amongst my experience—I mean those in which the uterus has been removed for malignant disease and the patients have recovered from the operation. I have not yet seen a case with a secondary success. It is an operation against which I was prejudiced from the first. I could not believe that any operation would be really successful in cancer of the uterus. My experience is certainly in favour of my prejudice and I can only explain any alleged success by an assertion that the diagnosis of cancer was a mistaken one. All the cases on which I have operated and now sufficiently advanced, some forty in number, have died within twelve months and most of them long before that time. Not only so, but their complications and sufferings have been more severe than in the cases left alone. Amongst these complications is a new one—one I never saw before in cancer of the uterus uninterfered with. I mean obstruction of the rectum. In the return of the disease in the pelvic cicatrix there seems an extraordinary tendency to contraction which soon pulls the bowel out of shape and afterwards completely obstructs it. Two such cases have happened to me this year already and the story of one of them will suffice. The patient was a woman, aged thirty-eight years, married three years and with one child born when I saw her first about fourteen months ago. She never got over her confinement but went on persistently losing, with menstrual exaggeration. For this she was twice treated by curettage, once in Calcutta and once in London. After the second operation she was much better for a few months and she returned to India. But all her former symptoms speedily returned and she was sent back to England and placed under my care. I diagnosed endometric cancer and advised removal of the uterus. This I carried out last November and found a polypoid patch of papilloma at what I presume had been the placental site. The body of the uterus was perfectly free from the disease apparently, the wound healed easily and in March last she was perfectly well and desirous of once more travelling eastwards. But I felt a nodule in the cicatrix and advised delay in the journey. The disease advanced with fearful rapidity and at the beginning of May I had to open the colon on account of symptoms of intestinal obstruction. In the second case I operated upon the patient for obstruction of the rectum ten days later, and she is still in bed recovering from the lumbar operation. Such experiences do not encourage me to advise removal of the uterus for cancer, for these two cases were such as ought to have had satisfactory results if ever they are to be obtained.

Now as to the method for operating on the colon for intestinal relief. I have not troubled to look up the history of the operation beyond consulting Portal and Neale and that assures me that Amussat was the inventor alike of the idea and the proceeding. According to a wit of the early part of this century the ancients have stolen most of our good ideas, but here they seem to have left us a good thing. The idea was good, and Amussat's method of carrying it out was good though complicated, but the professional anatomists have made it worse. It is very funny to hear a professional anatomist describe the structures to be seen and those to be avoided in the performance of a surgical operation. The worst operators I have ever seen have been those same people. They begin with their knives as if they meant to dissect and they proceed as if they were engaged in a demonstration. They want to see all the structures which are described in the books and to display them to the onlookers. The only thing they do not do is to recognise the fact that in the human body there are almost as many variations as there are subjects, and this is particularly true in myology. A man who attends to dissecting-room manuals in such operations as those involving incisions through the abdominal wall will come to woeful grief and may end, as I have seen happen more than once, in stripping the transversalis fascia off the peritoneum in the belief that he was undoing old adhesions. A good training in anatomical detail is all very well, but with ninety-nine out of every hundred of us it is a mere waste of time, and even with the hundredth of us the great bulk of it may be forgotten, and what is worth remembering for surgical purposes can be learnt best from frozen sections. A week with Cunningham of Dublin and his frozen sections undid all the mental mischief done to me by the careful scholastic training of Goodsir and Turner. For the first time I grasped the idea that structures were not separated, that there were no foramina, and that the abdominal organs in particular lay closely packed together in very varying relations.

So the muscles of the abdominal wall vary and so the operation of lumbar colotomy as performed in my presence by a professor was one of the most gruesome sights I ever saw in my life. He divided a lumbar artery with its accompanying nerve—he carefully identified them but could not tie the artery, for he lost it in the wealth of muscular tissue which he unravelled, and after her death his patient was found to have her peritoneal cavity full of blood. I do not recollect ever having a fatal colotomy—I am certain no case of mine ever died from hæmorrhage, for I disregard all anatomical curiosity during the operation. I put the patient on her right side with her knees bent up to steady her and I place a pillow under her right loin so as to put on the stretch that which is the guide to the whole thing—a strip of tendon which marks the union of the fascias encasing the external oblique muscle, the internal oblique, the transversalis on the one side and the latissimus dorsi (or its tendon) and the quadratus lumborum on the other. The real difficulty is that the relations of the edges of these muscles do not follow the directions of the text-books as of course they ought to do. Let the operator disregard the text-books and bear in mind that after he has divided the skin to a necessary extent over the tight band and absolutely in its direction he has only to open the glistening fascia in the same position and carefully look at the direction of the muscular fibres with which he meets. He must in his proceedings inwards bear only one route in mind and that is as nearly as possible to the umbilicus. Only one direction further is necessary so far as muscular fibres are concerned, that the surgeon must put his knife down and use only his blunt forefingers to separate the fibres. At first this would be in a direction parallel to the axis of the patient's trunk and afterwards at right angles to that axis—he need not trouble to identify even the muscles. When he has got through the two layers he will come on a layer of fascia of the greatest importance, concerning which he ought to be "well up"—the transversalis fascia. This he must slightly notch and after getting his forefingers through it he must search backward towards the body of the vertebra till he finds the base of the kidney. Having found this and remembering two arid facts of anatomy—that the descending colon is generally immediately in front of the kidney if placed on its usual side, in front of his fingers, is attached to the moveable peritoneum and separated from his finger by some loose fat, he will take two or three pairs of catch forceps and pull layer after layer of fat boldly and freely up into the wound, leaving the forceps on each layer as he lands it outside, and proceed in this way till he sees the unmistakeable gut. If he keeps the points of his forceps well downwards and pointing well forwards towards the umbilicus he cannot miss the gut. When the gut is missed it is always by dissecting-room people who go over it instead of at it. Having found the gut, haul it freely and fearlessly up out of the wound, cut it nearly through and stitch with an all-round suture into the *lower* angle of the wound, carefully replacing all fringes of fat as you proceed, or removing them if much injured by the forceps, but remove them with your fingers and not with cutting instruments. You then close the rest of the wound, the upper part. The wound need never be more than three inches long and generally need not be so much, but it may look like five inches deep. A wound so made heals immediately, and as there is nothing but a temporary separation of muscular fibres they fall back at once into position and at once resume their function. The *whole* gut has been pulled through the crosswise-made opening in the undamaged muscle, so that the almost constant tension involved in all active positions of the body secures the closure of the aperture in the gut. In a badly done colotomy only a bit of the circumference of the gut is pulled up to or out of the muscular aperture, the bulk of it being as before left inside and the gut is emptied through the relief passage only by regurgitation from below and generally when the whole of it is distended by hardened fæces. This does not give full or indeed much relief, the retained fæces having from time to time to be dug out. After colotomy is done as I recommend it should be done *all* the motion comes through the wound at once and after some practice there comes marvellous control over the passage.

If anyone compares the proceedings described above with those of Amussat as described by himself and as copied or altered in text-book after text-book after him, it will be seen that there is very little in common between the two. The operation as I give it I got from the lips of Alexander McKenzie Edwards, lecturer on surgery in the Extra-Mural School of Edinburgh, to whom I was apprentice, pupil, and assistant for about six years. I have no recollection of hearing from him that he got it from anybody else and I certainly have neither read nor heard of it elsewhere. He was a surgical genius of the highest order, as many can testify who are still alive who knew him, so that I have no doubt it was a conception of his own, and if any name is to be attached to it his name alone ought to be.

When the time came in the "seventies" that I ventured to operate upon and to remove kidneys I adopted the same incision save in such cases as those where I followed another rule as simple and imperative. Attack your tumour on its most prominent aspect and certainly avoid all dissecting-room rules about finding "oblique lines" or other untrustworthy directions.

Birmingham.

A NOTE ON THE ETIOLOGY OF BERI-BERI.

BY WALTER K. HUNTER, M.D., B.SC. GLASG.,
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IN THE LANCET of July 31st, 1897, I reported the results of a bacteriological examination of the blood in two cases of beri-beri. Since then I have had the opportunity of carrying out in two other cases a similar investigation, and this I now put on record in further support of the opinion already expressed—namely, that the white staphylococcus of Pekelharing and Winkler is in truth the specific micro-organism of beri-beri. The two patients, both seamen from the s.s. *City of London*, were admitted into Dr. Middleton's wards of the Glasgow Royal Infirmary on Oct. 29th, 1897. Neither of them spoke English with any degree of fluency and so the account of their illnesses is necessarily very brief.

CASE 1.—The patient was a native of Bombay and as far as could be made out his illness began fourteen days previously to admission with swelling and pain in the feet and legs. There was considerable difficulty in walking and the patient was sick and very drowsy. On admission to the wards the œdema of the feet and legs was well marked. The sensation to touch and pain seemed to be blunted over a considerable extent of the body, but examination on this point was not very satisfactory. The superficial reflexes were quite active. The left knee reflex was absent and the right was diminished. The patient walked fairly well except when he was told to go along a straight line and then he had a tendency to stagger. He could not stand with the feet close together and the eyes shut. No reaction of degeneration was found in any of the muscles. The right ventricle of the heart seemed to be somewhat dilated, but no murmur was to be heard over any part of the cardiac area. There was evidence of some fluid effusion into both pleural cavities. The urine was quite normal. Examination of the blood gave the following results: hæmoglobin, 70 per cent.; red corpuscles, 71·5 per cent.; and white corpuscles, 1 in 450. The patient remained in hospital for five weeks and during that time the only change noted was a return to activity of both knee reflexes. At no time was albumin to be found in the urine.

CASE 2.—The patient was a native of Zanzibar and the history of his illness was very similar to that in Case 1. He had swelling and pain in the feet and legs, but there was no sickness or difficulty in walking. He could stand with the eyes shut and the feet close together without any difficulty. The superficial reflexes were present, but both knee reflexes were abolished. The sensation to pain seemed to be practically absent all over the body and the sensation to touch was much impaired. There was no reaction of degeneration in any of the muscles. The lungs were quite healthy, but there was a suspicion of some mitral incompetence. The urine was perfectly normal. Examination of the blood gave the following results: hæmoglobin, 90 per cent.; red corpuscles, 85 per cent.; no increase of white corpuscles. The patient was dismissed from the hospital after a month's residence in much the same condition as on admission, the knee reflexes being still absent and sensation in no way improved.

In both these cases specimens of freshly-drawn blood were examined at various times and on each occasion micro-organisms were to be seen in rapid motion in the spaces

between the groups of corpuscles. Culture media were inoculated with the blood as follows: on Oct. 31st 4 agar-agar and 1 bouillon tubes from each case; on Nov. 10th 3 agar-agar and 3 bouillon tubes from each case; and on Nov. 23rd 4 bouillon tubes from each case. Of the 30 tubes thus inoculated growth was obtained in only 4, 3 of these having been inoculated from Case 1 and the fourth from Case 2. Of these 4 growths, 3 of them (2 from Case 1 and 1 from Case 2) were pure, and they presented all the characters of the staphylococcus beri-beri as already described in my former paper. They liquefied gelatin in three weeks. The fourth growth (from Case 1) was impure, consisting chiefly of streptococci, but from it no staphylococcus could be isolated.

The pathogenic properties of these staphylococcus growths were investigated by injecting the organisms grown in bouillon broth into rabbits.

Rabbit 1 was injected with staphylococcus grown from Case 1. In this rabbit 8 injections (each injection consisting of 10 c.mm.[1] of a forty-eight hours' bouillon growth), extending over 18 days—i.e., an injection every second day—were given before signs of paralysis showed themselves. The post-mortem examination of the rabbit was quite negative as regards naked-eye appearances, there being no signs whatever of peritonitis and no abscesses in the liver. The nerves, however, showed unmistakeable evidence of parenchymatous degeneration. The experiment, then, serves to establish the relationship of this staphylococcus with the staphylococcus beri-beri of Pekelharing and Winkler and at the same time it demonstrates that it is not staphylococcus pyogenes albus—not at least as one usually meets with that micro-organism.

The next two rabbits were injected with growths of the staphylococcus which had been subjected for twenty-four hours to a temperature of 41° C.

Rabbit 2 (injected with growth from Case 1) and *Rabbit 3* (injected with growth from Case 2) each received twelve injections which extended over four weeks, each injection containing 10 c.mm. of a bouillon broth culture. That the virulence of these growths had been lessened by the temperature they had been submitted to seems to be undoubted, for at the end of the experiment the animals looked as healthy as at the commencement. After an interval of ten days the same rabbits were injected with non-attenuated growths—i.e., with the same growths as those which killed Rabbit 1. Each rabbit received nine injections, each of 12 c.mm., extending over twenty-one days. At the end of this time the rabbits still showed no signs of paralysis. They were then killed, but the post-mortem appearances in both were again negative. The white staphylococcus was cultivated from the heart and spleen in both. Careful microscopic examination of the nerves showed undoubtedly that fibres here and there were undergoing parenchymatous degeneration, but the degeneration was not nearly so marked as in Rabbit 1. Thus it is seen that in rabbits of the same size the two previously injected with an attenuated micro-organism seemed less easily affected by the unattenuated organism than those which were not so injected. I scarcely wish to suggest that an immunity had been produced, for a conclusion cannot be drawn from solitary observations. But the experiments at least make one think of the possibility of producing an immunity or of lessening the susceptibility to the poison of beri-beri.

As regards the source of infection of the two patients I was supplied through the kindness of Dr. George Marshall with samples of their food. These samples consisted of rice, split peas, and two kinds of dried fish. Several cultures were taken from each, with the result that from the rice there was readily cultivated a white staphylococcus with similar morphological characters to the staphylococcus beri-beri which was grown from the blood of the two patients. This staphylococcus which was grown from rice liquefied gelatin in 19 days. Its pathogenic properties were tested by injecting a fourth rabbit.

Rabbit 4 was injected with bouillon culture which was grown from rice; 12 injections, each consisting of 10 c.mm. of a forty-eight hours' bouillon growth were given, extending over four weeks. At the end of that time no signs of paralysis had presented themselves, so the animal was killed. The result of the post-mortem examination as regards naked-eye appearances was quite negative. The nerves, however, on microscopic examination showed unmistakeable signs in many places of a parenchymatous degeneration. Cultures of the white staphylococcus were readily grown from the blood of this rabbit.

I conclude, then, from the above that this white staphylococcus which was grown from rice is the same micro-organism as that which was found in the blood of the two patients and therefore I consider rice taken as food may be a source of infection. Possibly, however, it may be that rice only makes a suitable medium for the growth of the staphylococcus and that the entrance of the infection is entirely through the air passages. If one may draw any conclusion from comparing the experiment of Rabbit 1 with that of Rabbit 4 it would be that the staphylococcus grown on rice is less virulent than when grown from the human blood. This, however, is not warranted, for the data are too uncertain. The white staphylococcus grown from rice was not found in any of the growths from the other specimens of food.

I again have to express my great indebtedness to Dr. G. S. Middleton, who so kindly placed at my disposal these two cases of beri-beri. I have also to thank Dr. Lindsay Steven and Dr. J. Barlow for the use of their laboratories and apparatus.

Glasgow.

[1] An error occurs throughout my former paper, where it is stated that cubic centimetres (c.c.) of the bouillon broth were injected into the rabbits. It was, of course, cubic millimetres (c.mm.) which were injected.

A CASE OF FRACTURED SPINE WITH SOME UNUSUAL COMPLICATIONS; RECOVERY.

BY A. W. LYONS, M.B. LOND., M.R.C.S. ENG.,
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ON Dec. 24th, 1897, a carter, aged twenty-eight years, was leading his horse, which was attached to an empty brickcart, under a railway-bridge when the horse took fright at a passing train, bolted, and knocked him down, causing the cart-wheel to pass over his back. I found the patient lying by the side of the road, whither he had been carried. He complained of great pain in his back, and he was bathed in a profuse perspiration. His pulse was feeble; 65 per minute. He was conveyed to the Thames Ditton Cottage Hospital on an ambulance. On admission no bruises or other external marks of injury were discovered, but there was a puffy swelling over the situation of the ninth and tenth dorsal vertebræ. On palpating this the finger appeared to sink into the swelling; but it was difficult to make out the vertebral spines though the one next above the seat of injury appeared to be a little prominent. No crepitus was made out, neither was there any distinct dislocation of the spine. A careful search was made for a fracture of the ribs but none was discovered. At this time there was no marked paralysis, though the movements of both legs were feeble, especially of the right. The patellar reflexes were both absent. The patient was laid flat on his back and was kept in position by means of a folded towel placed across his chest and secured at the ends by a sandbag on either side. The urine was drawn off and was found to be normal. By the evening of the same day the right leg was paralysed, the patient being quite unable to draw it up in bed though he could still move the foot a little. The movements of the left leg were impaired considerably more than they had been in the morning. The patellar reflexes were both absent. He had been coughing a little and bringing up some blood-stained mucus. On auscultation a few râles were heard over the right lung but none over the left lung. Resonance was equal on both sides. The temperature of the patient on admission was 98·2 F. In the evening of the same day it was 99°. On Dec. 25th the temperature was 99·4°. The patient had passed a fairly good night, but the cough had been a little troublesome. Blood-stained mucus was still being brought up. The cough caused him acute pain over the seat of injury to his back. The movements of the right side of the chest were much diminished and there was dulness over the whole of that side. The apex beat was not displaced. Vocal fremitus was absent and no tubular breathing could be heard, but the breath sounds were very faint and vocal resonance was much diminished. The patient complained of shooting pains in the right leg. The paralysis remained stationary and there was still retention of urine. There had been no action of

the bowels since the accident. Six grains of subchloride of mercury were given. The temperature in the evening was 100·4°. The temperature on the morning of the 26th was 99·2°. The patient had had a very bad night. His breathing was very rapid and shallow. Resonance was re-established over the front of the right lung, with very large râles and profuse muco-purulent expectoration tinged with blood. It was not deemed wise to move the patient to get at the back of his chest. He was able to draw up both his legs, the left more freely than the right; there was no loss of tactile sensibility, and he was able to localise tactile sensations. He complained of shooting pains in the legs, especially in the right, and he perspired profusely. There was no action of the bowels until after an enema. In the evening the temperature was 102·2°, the pulse was 136, and the respirations were 38 per minute. The morning temperature on the 27th was 101·2°, the pulse was 114, and the respirations were 31. The patient had had a bad night. The cough was troublesome and the expectoration was profuse. The nurse reported that the breathing had been very rapid and shallow during the night. The right lung continued in the same condition as on the previous day. The left lung was quite normal. The right leg was completely paralysed, and the reflexes were still absent on both sides. He was able to move the left leg a little but not so much as on the previous day. He still complained of shooting pains in both legs. The catheter was used night and morning; he passed a little urine towards the evening, but it appeared to be overflow. A small superficial sore of about the size of a sixpenny-piece had made its appearance on quite the lower and internal part of the left gluteal fold out of the way of any pressure. The evening temperature was 102·2°, the pulse was 108, and the respirations were 40. On the 28th the temperature in the morning was 100·2°, the pulse was 112, and the respirations were 36. There was no change in the general condition of the patient. The urine drawn off by catheter was offensive, though the greatest care had been taken to render the instrument aseptic on each occasion of its use. The bladder was now washed out with warm boric acid lotion morning and evening. The temperature in the evening was 100°, the pulse was 112, and the respirations were 36. On the 29th the morning temperature was 100·2°, the pulse was 112, and the respirations were 36. The patient still expectorated large quantities of muco-purulent sputum but no blood. The urine drawn off in the morning had lost all the offensive odour. He passed a motion unconsciously; hitherto he had only had an action of the bowels after an enema. The evening temperature was 100·2°, the pulse was 100, and the respirations were 24. On the morning of the 30th the temperature was 101°, the pulse was 119, and the respirations were 28. The patient had had rather a better night. There was no increase in the weakness of the left leg. He took nourishment well—indeed, he had done so all along. There was no return of the reflexes. The evening temperature was 101°, the pulse was 112, and the respirations were 32. On Jan. 3rd, 1898, the temperature, pulse, and respirations were normal. During the last two days the patient had been making steady progress. He was reported to have had a much better night. There had been less coughing; the expectoration, however, was still muco-purulent but diminished in quantity. The râles to be heard over the right lung were smaller. There was some increase in movement in the left leg; the right leg was still absolutely paralysed. The urine had to be drawn off and the bladder to be washed out as before. There was no overflow—in fact, the urine only flowed through the catheter on pressure being made with the hand above the pubes. The patient had had an action of the bowels without an enema. The bedsore was beginning to heal. The perspiration was much less. The temperature through the day had been normal; at midnight it fell to 97°. On the 6th the temperature, &c., were normal. The patient had slept very well but he coughed a little. A few râles were to be heard over the right lung. He was able to draw up the right leg. He had no pain except on coughing violently, when he felt it in his back. The urine flowed through the catheter without any external pressure. On the 7th the temperature, &c., were normal. The patient felt "very well"; the cough had nearly gone and the expectoration had correspondingly diminished. He was able to draw up the right leg quite freely. The patellar reflexes had not returned. There was distinct lessening of painful sensibility over the right leg and thigh; he said he felt a "little prick" when a pin was pushed well into the subcutaneous tissue. He was well able to localise tactile as well as painful stimuli. The swelling over the seat of the injury had completely disappeared, but there was a hollow in the situation of the spine of the tenth dorsal vertebra and a prominence a little to the right which appeared to be the displaced spine, and there was tenderness on pressure over this prominence. The cremasteric and abdominal reflexes were absent, as they have been ever since the accident. On the morning of the 8th the patient had decidedly more power to expel the urine through the catheter. He had hardly coughed at all during the night. The patellar reflexes were absent. He passed 16 oz. of urine naturally during the evening. On the 9th the patient said that when he brought his head forward his back felt "as if it were in two pieces." He was able to draw up both legs in bed, the left more strongly than before. He could not dorsally flex either foot and was unable to abduct his thighs. There was dulness on the right side of the chest behind from the level of the inferior angle of the scapula downwards. The breath sounds over this area were very faint and vocal fremitus and resonance were both absent. The breath sounds in front of the right lung were somewhat harsh; there were no moist sounds. An exploring needle plunged into the dull area behind failed to draw off any fluid. On the 10th the general condition of the patient was unchanged. It was noticed that the abdominal reflexes were present on both sides. He passed urine freely and naturally. On the 11th the cremasteric reflex had not returned. The patient had had a very good night. In the evening he passed 10 oz. of nearly pure blood per urethram. He complained of no pain and otherwise his condition appeared unaltered. The temperature was normal. On the 12th the patient had no pain or tenderness over the bladder, but on being pressed he admitted feeling a little pain at the end of the act of micturition. The urine passed during the night contained less and less blood on each successive occasion. A specimen of urine passed in the early morning had a specific gravity of 1018; it was alkaline with a trace of albumin and under the microscope amorphous phosphates and a very few isolated pus cells were found. On the 15th the urine was slightly offensive. The patient was ordered 10 gr. of boric acid three times a day. On the 18th the urine was quite normal, being clear with no trace of albumin and no pus cells. After this date he made a perfectly uneventful progress, gradually regaining power in his legs, and was discharged at the end of April when he was able to get about on crutches. The only movement he was unable to perform was dorsal flexion of his feet. There was some slight return of patellar reflex on both sides.

The initial paralysis was probably due to hæmorrhage; had it been due to shock it would have occurred immediately after the accident and have progressively diminished, but it did not attain its maximum until the evening of the day on which the accident happened—i.e., some ten or twelve hours afterwards. There were no girdle pains complained of. The blood-stained sputum would seem to indicate some injury to the lung, and cases have been recorded in which this occurred from a violent crush to the thorax without any fracture of the ribs (Erichsen). The physical signs which developed in the right chest during the night of Christmas Eve may have been due to hæmothorax or pneumothorax or a combination of the two. One can hardly imagine a hæmorrhage so extensive as to render one side of the chest absolutely dull without some definite symptoms of loss of blood, but these were entirely absent. Pneumothorax may be accompanied by dulness (Osler). The sudden re-establishment of resonance and breath sounds over the front of the chest is difficult to explain. There were at no time symptoms of pneumonia. The sputum was never pneumonic but always copious and thin; the blood gradually diminished in quantity and finally disappeared five days after the accident. The reappearance of paralysis must have been due to a secondary myelitis, and to this probably the temperature was partly due. With regard to the bladder, the cystitis was probably due to the inability of the bladder to completely empty itself when the catheter was passed owing to paralysis of its walls. There never was over-distension, for the abdomen was percussed at least twice daily and no dulness was found. When natural micturition was re-established the washing out of the bladder was discontinued. Probably there was some trophic ulceration of its mucous membrane which was the source of the hæmorrhage. At this time he was given 10 gr. doses of boric acid, which speedily and finally put a stop to the decomposition of the urine and so aided the healing of the ulcer. The

bedsore was obviously a trophic lesion, being in a situation in which pressure was impossible. It developed on the third day after the accident and healed in about a fortnight. It seems improbable that the body of the vertebra was fractured, for if it had been union could hardly have taken place sufficiently for an examination of his back to be made by Jan. 9th, sixteen days after the accident. At all events there was no solution of continuity in the spinal column. The lumbar enlargement of the cord begins at the tenth dorsal vertebra, hence the absence of the patellar reflex. The cremasteric reflex depends upon the first and second lumbar nerves, and the abdominal reflex upon the eighth and twelfth dorsal nerves (Suckling).

Thames Ditton.

THREE CASES OF PROLONGED LABOUR.

BY JOHN MABERLY, M.R.C.S. ENG., L.R.C.P. LOND.

IT rarely happens that one is called in close succession to cases which illustrate the causes, difficulties, and dangers of prolonged labour in such a typical manner as the following which have lately come under my observation, and I have on this account been tempted to record them in the hope that they will be of interest to my fellow practitioners.

CASE 1.—The patient was a primipara, aged twenty-three years. She had been in charge of a so-called midwife who allowed labour to proceed for something over forty-eight hours, until at last becoming alarmed at the condition of the patient a medical man (Dr. J. Petersen) was sent for. When he arrived he found the patient in a terribly exhausted condition, with the vagina, vulvæ and neighbouring parts greatly inflamed and swollen. On examination the head was found low down in the pelvis and it had probably been lying there for some hours. Forceps were applied and the child, which had been dead for some time, was extracted without difficulty. The tissues were, however, in such a condition owing to the prolonged pressure that the perineum ruptured as far back as the anus in spite of the greatest care being used. Owing to the œdematous condition of the parts any attempt at immediate suture was out of the question and a douche of 1 in 2000 perchloride of mercury was ordered. This was on Jan. 14th, 1898. The patient was in a collapsed condition and it seemed doubtful whether she would survive many hours. She, however, rallied to some extent and the parts were dressed two or three times a day with the lotion and dusted with iodoform. Extensive sloughing occurred, portions being removed each day. The temperature varied from 101·5° to 105° F. and the pulse from 120 to 130 beats a minute. A liberal supply of nourishment in the form of milk, eggs, meat, broths, &c., with a good allowance of brandy and a mixture of quinine with diffusible stimulants were administered. The urine had to be drawn off with a catheter regularly. The fæces were passed involuntarily. The bladder becoming infected powders containing 10 gr. of boric acid were given three times a day if the urine was turbid and ammoniacal. On the morning of the 21st the swelling and the sloughs in the vagina had to some extent disappeared and it was possible for the first time to get a view of the cervix. It was then seen that sloughs were projecting from the cervix and extending into the uterus. As much was removed as possible and the uterus was syringed out with disinfectant lotion. At night the uterus appeared to be more enlarged than usual and a hypodermic injection of $\frac{1}{50}$ gr. of ergotin with $\frac{1}{4}$ gr. of morphia was given. On the next morning (Jan. 22nd) a large amount of clot and sloughs came away by natural efforts, and a further quantity was removed with the fingers and forceps. It was found impossible to remove all the sloughs an account of the imminent danger there appeared to be of going through the uterine walls if too much force were used in attempting to detach portions which were not easily separable from the living tissue, besides the risk of hæmorrhage, which, in the low condition of the patient, would have been fatal to her. During the day the patient appeared to rally somewhat, but on the morning of the 23rd she sank, worn out by the exhausting illness. There can be no doubt that besides the mere surgical injury inflicted by neglecting to deliver the child earlier there was superadded the septic infection caused by the dirty hands of the midwife. It is a deplorable fact that owing to laxity of the Medica Acts in South Africa a number of women who put themselves up as midwives are absolutely ignorant of the use of antiseptics or even of the necessity for ordinary cleanliness in their work, consequently one is constantly seeing cases of severe fever following confinements which have been attended to by such persons—in fact, so common is it among them that they consider it a matter of course, deluding themselves and their patients that it is what they call "milk fever," whereas the correct term would be "puerperal fever."

CASE 2.—The patient, a healthy, young, coloured woman, had previously given birth to a healthy child without any abnormal difficulty. I was called in early on the morning of Feb. 22nd, 1898. She had then been in labour about thirty-six hours. The membranes had ruptured about twelve hours previously, the pains, according to the patient, had been strong and fairly frequent from the commencement. On examination the os was found to be dilated to about the size of a two-shilling-piece and the head was felt above the pelvic brim. The frontal bone was made out to be the presenting part—the brow could be felt high up and to the front. The back of the child appeared to be turned towards that of the mother. The uterus was strongly contracted and the patient was in excellent condition in spite of the long continuance of the labour. An attempt was made bimanually to push the brow up and to promote flexion of the head, apparently with some success. 45 gr. of choral in 15 gr. doses given at intervals of twenty-minutes were administered with the object of giving the patient some rest and assisting the dilation of the os. I again saw the patient about 10 A.M. in company with Dr. Engelbach, and although the position of the head appeared to be to some extent rectified and the os well dilatable no real progress had been made, the head still being above the pelvic brim in spite of the strong uterine contraction. It was evident that, probably owing to the abnormal size of the head, a natural termination of the labour could not be expected. Chloroform was administered and after a good deal of difficulty the forceps were applied, but no amount of reasonable force appeared to have the slightest effect in persuading the head to enter the brim. Turning was next tried but was found impracticable on account of the strongly contracted state of the uterus and the fact that the waters had drained away some hours previously. The only resource left was either to do a Cæsarean section or to perforate and crush. The former was out of the question on account of the septic surroundings of the patient and it was therefore decided to perforate. After some difficulty the perforator was inserted into the posterior fontanelle and the hole having been enlarged the cephalotribe was applied and the head was crushed sufficiently to be able to make it enter the pelvic brim. The condition of the patient still being excellent it was decided to leave the case to nature to complete delivery. In this way there would be less risk of injury to the maternal soft parts, especially the perineum, which was still very resistant, and no harm could be done to the patient by the delay of two or three hours. The result was as anticipated and at about the end of three hours the child was born without further difficulty. The patient made an uninterrupted recovery. Syringing out twice a day with perchloride of mercury solution was practised for the next four days and a powder composed of 4 gr. of sulphate of quinine, 2 gr. of phenacetin, and $\frac{1}{2}$ gr. of calomel was given night and morning for the first two days, the bowels being kept open once or twice a day with the assistance of a little castor-oil. The temperature never rose above 100° and on the fourth day it was normal.

CASE 3.—The patient in this case was a woman, twenty-eight years of age, who had two years previously given birth to a healthy child, the labour then only lasting about three hours. A month previously to the present confinement I had been called in to see the patient for what she had been told was quinsy, but on examination it was seen to be an extensively ulcerated throat with a dirty sloughing ulcer perforating the soft palate, evidently specific in origin. She was given inunctions of mercury ointment and a mixture of Donovan's solution with iodide of potassium. At the date of the confinement the throat was perfectly sound except for a small perforation in the centre of the soft palate. The first signs of labour occurred on Feb. 26th, 1898 at about 1 A.M., when after a few slight pains the membranes broke, a large quantity of water coming away. The pains then almost entirely disappeared and when the patient was seen for the first time at about 7 A.M. the os was found high up and dilatable, with the head presenting at the brim

in the first occipito-anterior position; the pelvis was roomy and the parts concerned in the passage of the child were soft and dilatable. There was evidently no obstacle to rapid delivery provided the uterine contractions were normal. The pains, however, continued to be very weak and irregular and had not the slightest effect in propelling the head into the pelvis. At night 30 gr. of chloral were given with the object of giving the patient some rest, there being no reason to hurry the labour either in the condition of the mother or that of the child, judging by the fœtal heart sounds. The patient had four or five hours' sleep, and at 3 A.M. on the 27th she was awakened by the pains recommencing. They continued up to noon, but although accompanied by a fair amount of pain they appeared to be quite useless owing to the irregular contraction of the uterus. As there was no obstacle except the character of the pains to rapid delivery 2 dr. of the liquid extract of ergot were administered. About half an hour afterwards the pains became much stronger and more effectual, the head gradually progressing into the pelvis until at the level of the perineum, but it then seemed to have little inclination to come any further. The forceps were therefore applied and the child, alive and healthy, was removed, so little resistance being offered that the child appeared rather to slip out than to be pulled out. The uterus after the birth of the child again dilated and could be felt through the abdominal wall in an elongated flabby condition; the hand was therefore introduced into the uterus and the placenta was removed without difficulty. The uterine cavity was syringed out with hot solution of 1 in 2000 perchloride of mercury and a hypodermic injection of ergotine was given. This caused the sluggish member to contract fairly firmly, very little blood being lost. The pulse, which at the time of delivery was 90, quickly dropped to 75 and the patient had no further trouble, convalescing in the usual way.

When we come to examine these cases we find that they agree only in one point—viz., the abnormally prolonged time of labour. They differ materially in the causes producing this result and in the effects on the patients. They illustrate very clearly the different effects on the mother of labour prolonged during the first stage, when the head is still above the pelvic brim, contrasted with that in which it is prolonged in the second stage, with the head tightly wedged in the pelvis and causing pressure on the maternal soft parts. In Cases 2 and 3 no ill effects were noticeable, although the membranes had broken twenty-four hours or more previously to delivery, but in Case 1 the result was fatal to both mother and child although, according to the midwife's statement, the head had not been lying in the pelvis for more than eight or ten hours. As regards the causes of the prolonged labours the three cases differed essentially from one another. In Case 1 matters probably went on fairly normally until the head reached the perineum, and then the patient becoming exhausted the propulsive force of the uterine contractions became proportionately weakened, with the result that no further progress was made. If at this time proper assistance had been given in the way of forceps there can be little doubt that the fatal result would have been avoided. Case 2 was clearly one in which no natural efforts would have brought about delivery owing to the abnormal size of the head, and the result obtained justified the extreme measure of destroying the child in order to save the mother. In Case 3 it is questionable how long labour would have been prolonged if it had been left to nature, owing to the want of proper uterine contractions, and it was, I think, one of those exceptional cases in which the administration of ergot during the first stage of labour was not only justifiable but very beneficial in rousing the sluggish uterus when after careful examination it was found that there was no obstruction to rapid delivery. In this important point this case differs fundamentally from Case 2, in which the administration of ergot would possibly have led to rupture of the uterus, or at any rate would have been a most dangerous and unscientific proceeding.

Capetown.

SWANSEA WATERWORKS.—At the meeting of the Swansea Town Council held on June 16th it was stated that with regard to the reservoir and tunnel the seal had been affixed to a contract for £255,247, so that the Cray Waterworks would now be shortly commenced.

A PRELIMINARY NOTE ON THE ACTION OF ROENTGEN RAYS UPON THE GROWTH AND ACTIVITY OF BACTERIA AND MICRO-ORGANISMS.[1]

BY R. NORRIS WOLFENDEN, M.D. CANTAB.,
AND
F. W. FORBES-ROSS, M.D. EDIN.

SOME work has been done upon this subject, but as it has not led to any definite conclusions and in view of the somewhat conflicting statements published we have thought that further investigations would be desirable. With this end in view we have selected the bacillus prodigiosus as the first subject for experiment. Six culture tubes of the normal growth on potato were obtained from University College laboratory and on May 25th these were set to incubate in a Hearson incubator at a temperature of 35° C. in the dark. After five days' growth a tube was taken and from it two fresh cultures were made; one was a simple control culture and the other was rayed along with the mother culture for an hour. After twenty-four hours' growth that in the tubes which had been rayed (i.e., the mother and one of the daughter cultures) had increased markedly in comparison with the original tubes, which had now been growing for six days. The control culture appeared to be only just showing a margin of increase. The difference in growth between the two tubes which had been rayed and the non-rayed control tube was very great, showing that undoubtedly the action of the x ray tube had been exceedingly stimulative.

In order to determine whether the exposure of the potato to prolonged x ray action would produce such changes in the medium of growth as to account for any marked increase of bacillary growth, two sterile tubes were rayed for one hour, a culture was then made on one of them from one of the previous tubes which had been rayed and which showed active growth, and another culture was made in the second tube from a culture which had never been rayed at all. These were incubated under precisely the same conditions as the previous tubes. When examined two days afterwards the growth in the rayed potato culture from rayed bacilli had entirely outgrown the culture on rayed potato from non-rayed bacilli, therefore the only cause of this exceptional growth must have been a property of the bacilli themselves and not of the medium of growth.

Cultures up to the fifth generation were made and the following facts were arrived at:—A single exposure to the x rays increased growth markedly and along with it there was an increase of chromogenetic property, even though grown in the warmth. As is well known the bacillus prodigiosus does not form pigment when grown in a warm atmosphere. Further exposure to the rays so stimulates the growth as to again deprive the bacilli of power to form this peculiar pigment in the warmth, though on return to cold this property is afterwards recovered to such an extent that the amount of pigmentation, though slightly different in colour, is in excess of the original culture. Up to the fifth generation the result of exposure for an hour to x rays of the culture is to produce an exuberant growth—apparently the pigment power is somewhat altered.

The method of application of the x rays was as follows:—With a large 18 in. spark coil of Newton's make a power was used of 16 volts, and from 8 to 10 ampères. The focus-tube was placed about 6 in. above the test-tube containing the potato growth. In every instance the exposure was of from fifty to sixty minutes' duration, with occasional resting of the tubes, which were run with the anodes as nearly red-hot as practicable.

We do not here attempt to enter into the explanation of these phenomena of growth. We are content to record the facts that exposure of the bacillus prodigiosus to the radiations of a focus tube induces very marked increase of growth and peculiar changes in the pigment-forming powers of this particular micro-organism. We will merely add that in some of the lower forms of vegetable life the same changes are observed, notably in the protococcus. An exposure of this organism to x rays for from five to ten minutes appears to

[1] A paper read at the meeting of the Roentgen Society on June 7th, 1898.

much stimulate its activity, and if the exposure is a little prolonged the cells become much paler, the chlorophyll disappears, and the protoplasmic contents are more granular. The cells recover their green colour when exposed to sunlight, but on renewed exposure to x rays the chlorophyll seems to disappear more or less completely.

The following microscopic changes are to be noticed as the result of exposure of these bacilli prodigiosi to x radiations. There is apparently little to call for notice as regards the relative size of the rayed and non-rayed bacilli. As regards groupirg, an unusual property of the bacillus prodigiosus was apparent—that is, growth in chains or strepto-bacteria; and further, what is at present giving rise to controversy, spore formation, which seems to be clearly established by the presence of a chain preparation. For the rest, the bacilli appear in both cases equally granular and stain equally at the ends and as irregularly.

We are continuing these experiments, especially upon the pathogenic bacilli, among which it is possible that changes in growth may be accompanied with some alterations in the character of the bacilli.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON A CASE OF PUERPERAL ECLAMPSIA OCCURRING IN THE SIXTH MONTH OF PREGNANCY; DEATH.

BY H. HOWARD MURPHY, M.D. CANTAB,
HONORARY MEDICAL OFFICER TO ST. JOHN'S HOSPITAL, TWICKENHAM.

THE following notes on the case of a patient who was seized with puerperal eclampsia in the sixth month may be of interest to readers of THE LANCET in general as well as to "R. C.," who recently asked for references to cases.[1]

On Oct. 21st, 1897, I was asked in the morning to call on a patient, about thirty years of age, who had vomiting and cramps in the stomach. She had one child, an easy confinement, four years ago, and was now some five months pregnant. She had not felt very well for some days, her stomach seeming to be out of order. There was no history of colic or jaundice previously or of any serious illness, the patient being generally healthy. The attack commenced after breakfast by some colicky pains across the upper abdomen and pains across the loins. She had rolled on the floor with pain, felt faint, and vomited once. The bowels were last opened on the 19th, when they acted well twice. I ordered an enema, a mixture with tincture of chloroform and morphia, fomentations, appropriate diet, &c. In the afternoon there was another attack of the colicky pain and the patient vomited twice. The tongue was clean; the liver dulness was not increased; there was tenderness in the region of the epigastrium, but not over the gall-bladder, which could not be felt. The pulse was 75 and good and the temperature was normal. During the evening a second enema had caused a free evacuation; but the colic had been very severe and she had vomited frequently and all she took. There were no uterine symptoms at all. Morphia (¼ gr.) was injected hypodermically. She slept for four hours quietly; then she awoke and had severe colic and frequent vomiting and about 3 A.M. there occurred severe convulsions which lasted for an hour. Her pulse was 80 and good. Another hypodermic injection of morphia quieted her. At 10 A.M. she had two convulsions; she kept fairly conscious between the attacks; she complained much of epigastric pain and threw herself about and vomited frequently. She had passed very little urine, which contained a cloud of albumin. At noon she was distinctly jaundiced and was becoming less conscious. The temperature had risen to 100° F. and the pulse was 80 and of fair strength. Dr. Amand Routh kindly saw the patient on the afternoon of the 22nd in consultation. He considered that the eclamptic state demanded the induction of labour and finding that the os was patulous he was soon able to pass in a finger, to rupture the membranes, and to bring down a leg. There were no uterine contractions. He advised the continuance of the morphia and the administration of nutrient enemata with some bromide and chloral. In three hours the uterus was emptied and washed out. There were no more convulsions; the patient was quieter, but she also gradually became less capable of being roused to answer questions or to take food. On the 23rd she had a quiet night, without convulsion, vomiting, or complaints of pain. She had not required any morphia. She recognised and spoke to me, answering questions. She passed no urine and no action of the bowels took place. The pulse was 100 and weaker. She took food well. All day she lay very quietly and in much the same condition. As no urine was passed by the evening the catheter was used and yielded 16 oz. of urine which was very dark coloured with bile and contained much albumin. The liver was tender and the area of dulness was diminished. The tongue was coated. The pulse went up to 120 and got weaker. She was very jaundiced. On the 24th the patient had passed a very quiet night. She took liquid nourishment well. No urine was passed. The bowels were frequently opened with small liquid motions. She had no convulsions and did not vomit. There was loss of vision and she said she could not see me but she recognised my voice; she was rambling and semi-conscious. The pulse was 120 and very weak and the temperature was 100°. In the afternoon the catheter drew off 1½ oz. of urine which was very dark with bile and contained some blood. About 4 P.M. she became quite unconscious and very weak and died quietly in half an hour. No post-mortem examination was held.

Dr. Routh agreed with me that there was acute atrophy of the liver in this case as well as the eclampsia. The latter ceased as soon as the uterus was emptied, as did the epigastric pain and vomiting. The urine contained albumin, was scanty, and almost suppressed at last.

Twickenham.

[1] THE LANCET, May 21st, 1898.

A CASE OF CONCEALMENT OF BIRTH.

BY SANDERSON MELLOR, L.R.C.P., L.R.C.S. EDIN., L.F.P.S. GLASG.

THE following is a curious and interesting case as showing what can be done by one who has just given birth to a child.

A single woman, aged twenty-three years, lived with her father (who is a widower) and a sister, aged fifteen years. The mother died some years ago and the home surroundings and comforts of these two daughters had not been of the happiest. The elder sister, whose extraordinary conduct I am referring to, gave birth to a child about two years ago and I understand she was on that occasion attended by a midwife. She expected her second confinement last February. For some reason—most probably shame—she never mentioned her condition to anyone and for a month or six weeks before the event she kept to the house and was never seen outside, not even by the next door neighbours. At 12.30 P.M. on the day on which she was confined she told her sister that she was in pain and asked her to fetch her married sister who lived two and a half miles away. This sister was, however, unable to go as her children were all ill and she could not leave them. The young girl then ran nearly two miles for another sister, with the result that the second sister went at once. She arrived at her father's cottage at 3.30 P.M. and finding the back door locked she ran round to the front and there met the girl who had just been confined. She then told her sister that she had had a "loss" and that she had put it in the water-closet. The girl was immediately put to bed and a neighbour was called and a close inspection of the water-closet revealed nothing which threw any light on this mysterious affair. The floor near the bed, the bedclothes, and the girl's linen were all soaked in blood. In the centre of another room and on the floor was a dirty old bag which had been used for stopping up the chimney, and in this bag, in which there was a large quantity of horsehair, a fully developed after-birth was found. Up the chimney in the same room another dirty bag was discovered which contained the body of a full-time child. The matter was placed in the hands of the police and I made a post-mortem examination. The umbilical cord was one yard long and was coiled round the child's neck, and the cord

was torn about 6 in. from the placental end. The child had breathed.

This case is interesting inasmuch as barely three hours had elapsed from the time labour had commenced to the time the concealment of the birth was brought to light. Although the mother must have lost an enormous amount of blood, as evidenced by the state of the room and her linen, and notwithstanding the fact that she was removed to the union the next morning, a distance of two miles, she is now quite well.

West Malling, Kent.

A CASE OF GUMMA INSIDE THE STERNUM.

By THOMAS COLE, M.D., F.R.C.P. LOND.,
LATE SENIOR PHYSICIAN TO THE ROYAL UNITED HOSPITAL, BATH.

I WAS a few years ago asked by his two medical attendants to see a man, aged about forty-eight years. He had been indefinitely ill for some time, suffering from dyspnœa, slight cough, and some blueness. The most minute examination of every organ revealed nothing, but I found on the front of the sternum a small boss or elevation which was a third of an inch wide and about the same in elevation. The mass was slightly tender. I was the first to discover it. I also thought the substernal respiration was somewhat more tracheal than usual. Taking the few facts into consideration I suggested that there might be some gummatous mischief and advised the administration of 20 gr. of iodide of potassium every four hours. But I could make no impression on my friends, who would express no opinion, and only (when I was gone) put eight leeches over the little swelling. In two or three days we met again. The mass was rather larger, there was a little more dyspnœa, the respiration was noisy, and there was a slight laryngeal cough I still urged my plan; it could do no harm and might confer immense benefit on the patient, whose case I began to think of with great distrust. But I could not move these practitioners by any argument whatever. Still they believed in me and on many occasions had called me in. They wished me to meet them again in a week, which of course I did. The poor fellow was evidently gradually slipping through their fingers; every symptom was worse, intra-sternal pressure was more marked, and venous stasis above the clavicles was developing. I asked, "Are you prepared to go on treating this case as you are—doing nothing?" One of them said, "Are you prepared to give us a good reason for such heroic treatment as the administration of 20 gr. of iodide of potassium every two or three hours" (which I then proposed)? A merciful providence intervened on the patient's behalf as well as on my own. Strange, indeed, was it that the left sleeve of his night-dress being unbuttoned and drawn up towards the elbow I saw a large node on the ulna at least 2½ in. by 1½ in. I pointed it out to my sceptical friends and turning to the patient said: "How long have you found this?" "It was not there, Dr. Cole, when you last came, but the day after it began to come and it is getting very painful. I intended to call your attention to it this morning as I knew you were all coming and you had asked about swellings before." Persuasion leaped into the minds of my friends after so unmistakeable a proof of the nature of the malady and the treatment was at once begun. In a very short time all the evidence vanished and the patient resumed his usual health. Of course, he was most carefully watched and when I heard of his state a year afterwards he was well and free from disease. Does not such a case prove to every practitioner the absolute necessity of an accurate diagnosis in every case which comes under his notice? How many lives would be saved were common care taken in such important and critical matters?

Bath.

NOTES ON TWO CASES OF CONGENITAL ABSENCE OF THE RIGHT EYE (ANOPHTHALMOS).

By JOHN R. ROLSTON, L.R.C.P. EDIN., M.R.C.S. ENG.,
SURGEON TO THE ROYAL EYE INFIRMARY, PLYMOUTH, AND OPHTHALMIC SURGEON TO THE ROYAL ALBERT HOSPITAL, DEVONPORT.

IN THE LANCET of Jan. 1st, 1898, Mr. W. G. Nash of Bedford records a case of Congenital Absence of the Right Eye, with an illustration. As I have seen two cases of the same deformity—one of which very closely resembles the case related by Mr. Nash—I thought an account of them would interest the readers of THE LANCET. The accompanying illustration is reproduced from a photograph of the one which is so similar to that described by Mr. Nash.

Portrait of the patient (aged six years) in Case 1.

CASE 1.—A girl, aged six years, was brought to me in December, 1896. There was—as is depicted in the illustration—congenital absence of the right globe with a small rudimentary palpebral aperture 12 mm. long with eyelashes; a small caruncle was seen inside. No evidence of a rudimentary globe was observed. There was much flattening of the bridge of the nose and the right ala of the nose was imperfectly developed. The left eye had horizontal nystagmus. The mother has had 5 children, all of whom are healthy. She has had no miscarriage. She says that she had a fall several months before the child was born.

CASE 2.—A girl, aged six years, was brought to me in December, 1896. There was congenital absence of the right eye with a small but otherwise natural palpebral aperture 19 mm. long. The cavity seemed to be natural. There was no sign of a rudimentary globe. No defect of the face was present. In this case the mother was not seen by me and no family history could be obtained. Photography was not allowed. The left eye was normal.

I am of opinion that these two cases may be correctly classified as true anophthalmos, as in each case I failed to find any rudimentary globe (although I did not use dissection), and this class is much more rare than that to which I should imagine Mr. Nash's belongs—viz., that of microphthalmos, as he states that "a small pigmented body about the size of a pea occupied the centre of the cavity" of the orbit. The point in common is that in all three cases the right side is affected.

Plymouth.

NOTE ON A CASE OF FATAL HEART AFFECTION IN SCARLATINAL RHEUMATISM.

By FRANK ROBINSON, M.D. VICT.,
RESIDENT MEDICAL OFFICER, CITY HOSPITAL NORTH, LIVERPOOL.

I BELIEVE that the following case of acute pericarditis (largely obliterative) will be of interest in connexion with the annotation on obliterative pericarditis in THE LANCET of June 18th, 1898.

A girl, aged ten years, suffered from an attack of scarlet fever of average severity in the City Hospital North, Liverpool, and made a satisfactory recovery from the acute stage. On the twenty-first day a mild attack of articular rheumatism commenced. There was no local swelling and but little pyrexia occurred, but the wandering pains persisted and on the fiftieth day severe pain drew special attention to the heart. An extensive area of pericardial

friction was found and by the sixty-second day the area of dulness extended beyond the sternum to the right and beyond the nipple to the left. On this day there was severe cardiac dyspnœa, which was relieved as the area of dulness diminished during the next few days. Murmurs were audible on the sixty-seventh day over the mitral and aortic areas and death resulted suddenly next morning.

Post mortem the posterior layers of the pericardium were found to be totally adherent, as was also the area where at one time paracentesis had been contemplated. The remaining portion of the pericardial sac still contained some excess of fluid (though the dulness had greatly lessened), and the free surface was coated with shaggy fibrinous deposit which was blood-stained in parts. The heart was much dilated and the edge of every valvular cusp on the left side was lined continuously with recent vegetations.

The extent to which the heart was involved in this case appears to be remarkable considering that it is comparatively seldom affected in scarlatinal rheumatism and that the joint symptoms were so trivial. Had the patient recovered the sequelæ would doubtless have been similar to those recorded by Dr. Cabot. I am enabled to report this case by the courtesy of Dr. Robertson, the visiting physician.

Liverpool.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

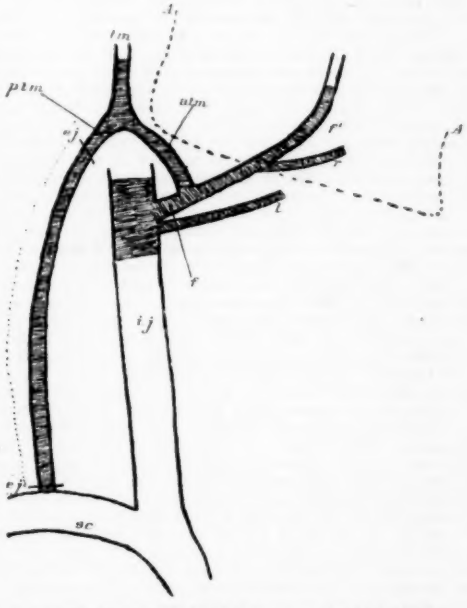
EVELINA HOSPITAL FOR SICK CHILDREN.

A CASE OF ALVEOLAR ABSCESS; DEATH FROM PYÆMIA IN EIGHT DAYS; NECROPSY.

(Under the care of Dr. F. WILLCOCKS.)

PYÆMIA arising from suppuration in connexion with a tooth is probably less rare than is usually thought, as there is great chance that the alveolar suppuration may be overlooked in many cases. When a septic clotting has been started in the veins of the part it may spread in several directions. The case below and the one quoted by Dr. Bolton in his remarks illustrate what is perhaps the most usual direction for it to take, but it is by no means rare for the septic phlebitis to extend from the facial vein into the buccal vein and so into the pterygoid plexus of veins, whence it passes into the cranium through the foramen ovale, and so affects the cavernous sinus. In this way are to be explained the cases in which severe cerebral symptoms arise early. For the notes of the case we are indebted to Dr. Charles Bolton, senior resident medical officer.

The patient was a boy, aged four years, who was taken to the Evelina Hospital for Sick Children at 8 P.M. on April 25th, 1898, on account of "pain in the sides." The mother stated that with the exception of an attack of measles from which he suffered in last December the child had had no previous illness, that for many weeks she had noticed that his teeth were "going very bad," but she took no notice of it as "bad teeth were so common," and that he had made no complaint and had been perfectly well until the evening of April 20th, when he complained of "toothache." His face was a little swollen on the right side on the next day and a medical man who was sent for said that the patient had a gumboil and ordered poultices. On the 22nd his mother took him to a hospital as he seemed to be getting stupid, and here she was told that he had a gumboil and was given some medicine. The child was much worse on the following day and complained of pain in the sides, and another medical man who was called in said that he had pleurisy and ordered poultices to be applied to the chest. He remained in the same condition until he was taken to the Evelina Hospital on the above-mentioned date. When the child was admitted he was drowsy and fretful; the skin was hot and dry and the temperature was 104·6° F. There was a hard, tender, non-fluctuating swelling with an indefinite outline fixed to the right side of the lower jaw in the molar region; the skin over it was hotter than the skin on the other side was, but it was not red, and several distended veins were seen over the surface. There were a few enlarged glands at the angle of the jaw, but nothing else abnormal could be felt in the neck. The breath was extremely offensive and the tongue was coated with a greyish-brown fur. The crowns of several teeth were completely decayed and the second lower right temporary molar was carious and loose, a brownish purulent discharge oozing from its socket and the surrounding gum and adjacent part of the floor of the mouth being ulcerated. The teeth and gums were partly covered with a dark-coloured, cheesy material, which had a foul odour. The throat was a little congested and was covered with tenacious mucus. With the exception of a few rhonchi on both sides there were no physical signs in the chest. The spleen was easily felt about two fingers' breadth below the left costal margin and the urine contained a trace of albumin. The loose molar was extracted and a quantity of thick brown pus escaped. The teeth and gums were thoroughly cleansed and the mouth and abscess cavity were irrigated every four hours with sanitas lotion. On the 27th the right eyelids were œdematous and the superficial veins were much more distinct than they had been before. The right external jugular vein could be distinctly



Diagrammatic representation of the veins on the right side of the neck. The shaded portions show the extent of the clotting in the various veins. A A, Outline of jaw. *tm*, Temporo-maxillary vein; *atm*, the anterior branch; and *ptm*, the posterior. *ej*, External jugular; the portion marked off was excised at the operation. *ij*, The internal jugular. *sc*, The subclavian. *f*, The common facial. *f*, The facial. *l*, The lingual. *r*, The ranine.

felt and rolled under the finger; the internal jugular was apparently normal. There was a free discharge of thin offensive fluid from the mouth and creolin lotion (1 in 1000) was substituted for the sanitas on account of the smell. Rhonchi and râles could be heard on both sides of the chest and the skin was a little jaundiced; the liver could not be felt. The general condition was the same as it had been before; the temperature ranged between 104° and 106°, once or twice rising to 107° and falling from 3° to 4° after each tepid sponging; there were no rigors. Mr. Makins was asked to see the case. He exposed the external jugular vein and found it to be yellow in colour and full of pus. He ligatured it below at its junction with the subclavian and above almost as high up as the angle of the jaw and cut out the intervening portion. The internal jugular was next examined and the blood in it was found to be fluid. The wound was then

closed as the child's condition was very bad. The patient died on the following day (the 28th) at 3 P.M.

Necropsy.—At the post-mortem examination the external swelling was found to be chiefly composed of glands matted together. A part of the inner surface of the lower jaw was lying bare in the abscess cavity and the adjacent portion of the floor of the mouth was infiltrated with pus and was in a sloughing condition. The veins on the right side of the neck were dissected out and are represented in the accompanying diagram. The lingual, the ranine, and the lower part of the facial vein, together with the common facial and the anterior and posterior divisions of the temporo-maxillary vein, were full of pus, the external jugular having been removed at the operation. The clotting extended for some distance up the temporo-maxillary and facial veins and also along the branches, some branches of the facial being full of pus. The clot in the internal jugular was beginning to break down and extended for about a quarter of an inch above and below the entrance of the common facial. There were several pyæmic abscesses in both lungs and the spleen was enlarged and soft. There were no abscesses in the other organs.

Remarks by Dr. BOLTON.—There are several points worthy of note in the above case. 1. The first point I will consider is the course taken by the blood-clot. This depends upon the fact that in an alveolar abscess in this situation the probable source of infection is through branches of the facial vein, the veins of the tongue being infected in this particular case on account of the extensive involvement of the floor of the mouth. A glance at the above diagram shows that there was a direct line of pus from the facial into the temporo-maxillary and thence into the external jugular vein, the clot in the internal jugular being more recent, although the common facial vein runs directly into the internal jugular. The probable explanation of this is that the clot in passing down the facial vein towards the internal jugular blocked up the lower end of the anterior division of the temporo-maxillary vein, and the volume of blood in the latter vein, being small in comparison with that in the internal jugular, easily clotted, and so the infection was carried to the external jugular, whereas the large volume of blood flowing in the internal jugular would at first sweep off any clots projecting from the common facial into its lumen and thus clotting in the internal jugular would be delayed. Pyæmia is a very rare result of alveolar abscess; however, many cases have been recorded and Mr. Pedley in his book on Diseases of Children's Teeth quotes one which was published in THE LANCET[1] by Mr. Arbuthnot Lane and which bears a striking resemblance to this case. Mr. Lane's patient was a boy, aged four years, whose illness began with toothache and swelling in connexion with the second left lower temporary molar about a week before admission into hospital. He had jaundice, rigors, and an enlarged liver. The most interesting point is that in Mr. Lane's case the course of the clotting has apparently been exactly the same as described above, the external jugular vein being thrombosed to within half an inch of its lower end and the internal jugular only for a very slight distance. Mr. Lane cut out the external jugular and facial veins and tied the internal jugular above and below the entrance of the common facial with the result that the jaundice and rigors disappeared; however, the child died and at the necropsy abscesses were found in the lungs and liver which had been formed before the operation probably by clots projecting from the common facial into the internal jugular and washed off by the blood-stream. In these cases the clotting must reach the internal jugular very soon after it reaches the temporo-maxillary, hence the earlier the internal jugular is ligatured the greater is the chance of success, and when the external jugular is found to be thrombosed it is probably too late to save the patient by operative interference. The proper treatment in such cases obviously is to examine the facial vein as early as possible and not to wait until there are signs of thrombosis of the external or internal jugular veins. 2. The next point to which I wish to refer is the inattention which is paid to children's teeth not only by the parents but even by members of the medical profession. Of this there are numerous examples daily in the Evelina Hospital: it is an extremely common thing to see children with the majority of their teeth carious, with pus oozing alongside the crowns of two or three, or several minute abscesses pointing through the gum, or probably three or four fangs of temporary teeth protruding through the gum and causing ulceration of the cheek owing to their non-absorption as a result of caries of the crown. This condition of things is totally disregarded and the teeth are never examined because the children do not complain of pain. This brings me to the third point which this case illustrates. 3. Namely, that it is quite the rule for these children never to have any pain at all. This point is not paid much attention to, but everyone can verify it for himself and he will then be surprised at the amount of destruction which can take place in children's teeth without the occurrence of any pain whatever. 4. In reference to the treatment of alveolar abscess in connexion with temporary teeth there is no doubt that in all cases the proper thing is to extract the tooth at once and not either to apply poultices or to give medicine. The abscess then drains through the socket, the cause of the abscess is removed, and the permanent tooth which lies under the temporary one will probably be saved, which it cannot be if the abscess is allowed to run its course unopened. 5. Another point illustrated here is the fact that there may be most extensive suppuration within the veins and secondary abscesses without any rigors or large variations of temperature. 6. Lastly, the value of creolin in this case as a deodoriser may perhaps deserve mention. At the necropsy, which took place twenty-four hours after death, the mouth smelt very strongly of that drug.

[1] THE LANCET, Nov. 5th, 1892.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Retinitis Proliferans.—Œdema of the Conjunctiva due to Obstruction of the Lymph Stream.—The Pathogenesis of Anterior Polar Cataract.—Splinters of Steel removed from the Eye with the Electro Magnet.—Value of X Ray Examination in Old Injury to the Eye.—Large Fibroma of the Upper Eyelid.—Toxic Amblyopia.—Exhibition of Cases and Specimens.

AN ordinary meeting of this society was held on June 9th, Mr. H. R. SWANZY, the President, being in the chair.

Mr. PERCY FLEMMING described a case of Retinitis Proliferans. The specimen was obtained from a man, aged twenty-two years, who died from chronic renal disease. The following appearances were seen on section: the posterior part of the retina was much thickened, folded and detached; a thin membrane stretched across the vitreous cavity from the ora serrata to the posterior part of the retina; another membrane had a similar origin in part, but ended freely about the middle of the vitreous cavity; the space between these membranes and the retina was occupied by blood-clot; there were signs of cyclitis. The chief microscopic appearances were a thickening of the retina and disorganisation of its inner layer, a definite transformation of the clot (as seen in successive sections) into connective tissue membrane with lacunar spaces, and a pulled-out condition of the retina near the ora serrata, resulting in elongation and rupture of Müller's fibres. It was possible to trace a direct continuity between the membranes and the retinal tissue. A review of previously recorded cases was given and the suggestion made that the essential factors of the disease were: (1) hæmorrhage, and (2) an inflammation of the sustentacular tissue of the retina allied to sclerosis of the central nervous system.—Mr. C. WRAY referred to two cases, one of a man, aged sixty-eight years, with glycosuria, who exhibited detachment of retina and retinitis proliferans in the right eye and vitreous hæmorrhage and a vascular formation from the optic disc resembling the skeleton of a leaf in the left. There was no necropsy. The other, also a man, aged thirty-five years, with a similar condition of the vitreous, detachment of the retina, whose vision had improved under continued large doses of potassium iodide from the capacity to count fingers at 3 metres to $\frac{6}{9}$ths, and who had been able to work during the last five years.

Mr. HOLMES SPICER described a case of Œdema of the Conjunctiva due to Obstruction of the Lymph Stream. He said these cases presented themselves in two groups, the acute and chronic. In the acute cases, owing to a poison received into the conjunctival sac supposed in one case to have come from wood pavement, the pre-auricular and cervica

lymphatic glands became inflamed, although the local signs of conjunctival irritation were not marked. The flow of lymph was hindered and a condition of extreme œdema of the conjunctiva was produced in which the conjunctiva hung out from between the closed lid as a flaccid gelatinous bag. Two cases were narrated in which the glandular enlargement was increased by the simultaneous occurrence of follicular tonsillitis. In the second chronic group, owing to a post-suppurative inflammation of the lymphatic glands of one side of the face and neck, great cicatrisation had been produced, the lymph stream was hindered, the subconjunctival tissue spaces became filled with the solid constituents of the lymph, and a condition of solid œdema resembling elephantiasis in other parts remained, which was persistent in spite of treatment.—Dr. RAYNER BATTEN cited two cases in females, aged respectively twelve and thirty years, in whom œdema affected the conjunctiva and lids, causing limitation of movement of the globe. Incision into the orbit elicited nothing, though there was proptosis. No rheumatic history existed, but the condition subsided rapidly under salicylates. —Mr. BASS laid much stress on the coexistence of follicular tonsillitis in the cases reported, suggesting that the conjunctival sac was probably infected from the saliva in moistening the lids, which often adhered.

Mr. TREACHER COLLINS read a paper on the Pathogenesis of Anterior Polar Cataract. He first described a case in which a melanotic sarcoma of the anterior part of the ciliary body, coming in contact with the antero-lateral part of the lens, had produced an opacity of the lens in that position, which presented precisely similar microscopical appearances to those seen in anterior polar cataracts. This, he thought, strongly supported the view that these latter resulted from contact of lens and cornea arresting the osmosis of nutritional fluids in the lens. He next demonstrated the microscopical characters of a congenital cataract where there was a large anterior polar opacity, beneath which the lens fibres had undergone such extensive degeneration that the whole lens was much flattened from before backwards. He thought the changes could be accounted for by prolonged contact of the lens and cornea in fœtal life, after the anterior fibro-vascular sheath of the lens had disappeared. He then quoted several cases in which, besides an anterior polar opacity, there was a second opacity situated beneath it a little deeper in the lens. In all these the cataract had been formed in early life and several years had elapsed before the patient came under observation. He showed a drawing of the microscopical appearances of a lens presenting two such opacities. There was the usual laminated mass at the anterior pole, then some normal lens fibres, and then an area where the lens fibres had broken up into irregular amorphous granules and detritus. This area corresponded fairly accurately in shape to that of the mass at the anterior pole and he thought there could be no doubt that they were at one time in contact, having become separated by the gradual growth of new lens fibres inwards between them.

Mr. SIMEON SNELL related two cases in which Splinters of Steel were removed from the Eye with the Electro-magnet. 1. From the retina with preservation of excellent sight. The piece was observed with the ophthalmoscope as fixed in the retina in the outer and lower quadrant; the fragment had passed through the cornea close to the sclero-corneal junction, and when the patient was first seen four days after the accident the glistening of the steel was distinct, but the foreign body was partially covered with exudation. The patient could count fingers. The electro-magnet was inserted eight days after the accident between the inferior and internal recti and the fragment was removed. Later the vision equalled $\frac{6}{12}$. 2. From the vitreous, the foreign body being localised by the x rays. The patient was not seen for several weeks after the accident. The foreign body was diagnosed as having entered the upper part of the cornea, passing through the lens into the vitreous. Dr. McKenzie Davidson used the x rays and localised the splinter in the upper part of the vitreous. A skiagram showed it to be needle-shaped, measuring 8 mm. in length, and placed obliquely. The electro-magnet (fifteen weeks after the accident) was introduced through a scleral incision between the inferior and internal recti and the splinter was at once removed. The patient could afterwards count fingers.—Dr. TATHAM THOMPSON spoke of the difficulty sometimes experienced in withdrawing the foreign body through a small wound which he had overcome by approaching the body from another direction so as to get it end on. He thought one of the chief advantages in using the x rays was the power of excluding foreign bodies in doubtful cases.

Mr. W. LANG described two cases illustrating the Value of the X Ray Examination in instances of Old Injury to the Eye with Defect of Vision. The first patient consulted him for failure of vision going on to total amblyopia in whom there was a small corneal scar with corresponding openings in the iris and lens. Though there was no history of injury a foreign body was suspected and a skiagram by Dr. McKenzie Davidson revealed one in the lowest part of the vitreous covered up by opaque tissue. The second had a recent wound of the cornea, iris, and vitreous, but no foreign body could be seen. This was subsequently located in the sclerotic at the fundus. There was a small hole in the choroid. No operation was attempted in either as the eyes were quiet.

Mr. SIMEON SNELL related a case of Large Fibroma of the Upper Eyelid. The patient, a man aged forty-three years, never remembered being without the tumour and it had only increased in size very slowly. At the time of his being first seen it was pedunculated, of the size of a filbert, and by its weight and situation interfered with the movements of the eyelid and with vision. It was attached to the left upper eyelid just external to the punctum. It was dissected off. The tumour was white and glistening in section and under the microscope it was found to consist of fibrous tissue.

Mr. ANDERSON CRITCHETT showed a case of Toxic Amblyopia which was attributed to poisoning by iodoform. An elderly woman suffering from an extensive cancerous ulceration of her breast had been in the habit of applying iodoform to the ulcer over a period of three years. She developed somewhat suddenly extreme amblyopia, lost the recognition of all colours except blue, for which she had a large central scotoma, and was found to have slight pallor of the outer half of each optic disc and a small granular change to the inner side of each macula lutea. Since the iodoform had been stopped (ten weeks) the return of her colour vision had been very decided, she could recognise any colour by indirect vision, but still had a large central scotoma. Her visual acuity was still very bad, though it had shown some improvement.

The following cases and card specimens were shown:—

Mr. HARTRIDGE: Phagedæna of the Eyelids.

Mr. CHARLES WRAY: (1) Pemphigus of the Conjunctiva; and (2) Skiagram of a Foreign Body in an Eye.

Dr. TATHAM THOMPSON: Intraocular Granuloma.

Reviews and Notices of Books.

Forensic Medicine and Toxicology. By J. DIXON MANN, M.D. St. And., F.R.C.P. Lond., Professor of Forensic Medicine and Toxicology in Owens College, Manchester, &c. Second edition. London: Charles Griffin and Co. 1898. Pp. 683.

THE merits of the first edition of this work at once classed it as among the best text-books and works of reference on the subjects of which it treats. The present edition has been entirely revised and brought fully up to date, some of the sections have been re-written, and others have been added—for example, on the Obligation of Professional Secrecy, on Sudden Death from Natural Causes, on Blood Poisons, and on the Post-mortem Imbibition of Poisons.

Great interest will naturally be taken in Dr. Mann's words on the position which medical men occupy as depositories of secrets acquired in their professional capacity concerning the physical or mental condition and the doings or misdoings of their patients. The advice given is sound; if carefully followed the medical man is not likely to involve himself in a lawsuit. The author naturally considers the duties of a medical man when brought into contact with a case in which abortion has been illegally produced. He says: "The law relating to the subject is very unsatisfactory, but a medical man placed in such a difficulty would not be far wrong were he to determine his course of action by carefully considering whether the knowledge acquired whilst acting in a professional capacity

was or was not of such a character as to override the obligation to secrecy. The rule is never to violate professional secrecy, but, like other rules, it may have its exceptions." The chief point that attracts attention in reading Dr. Mann's book is the thorough manner in which the whole of the strictly scientific portions are considered; a great deal of investigation and study must have been required. A notable instance will be found in Chapter XXII.—"Death caused by Burns and Scalds"; the various theories advanced to account for death from burning are carefully analysed and summarised. The opinion arrived at is that early death from burns and scalds is a primary blood disorder, which chiefly results from injuries received by the red corpuscles when subjected to intense heat.

The subject of wounds and injuries from a medico-legal point of view is always a large and difficult one, but the classification here found will materially help the student to understand the complicated points which may arise. Dealing first with the nature of contusions and wounds, injuries of the various parts of the body are considered, then wounds produced by firearms. Next follows an excellent disquisition of wounds in their causal relation, and these sections a medical man would do well to consult before giving evidence in cases in which wounds have been inflicted.

In the present edition some of the more abstruse theoretical considerations are printed in smaller type, and this we think is an improvement, especially to aid reference. A student will necessarily have to read such paragraphs, but the busy practitioner who may suddenly be called upon to express an opinion in a medico-legal case would be glad to be able to find at once practical hints as to the matters involved and consequently by the change of type would save time by not having to read theoretical matters. The chapters devoted to Insanity in its medico-legal relationships are also very good.

The section on Toxicology is most complete and forms about the best work of reference on that science with which we have met. In this edition several additional poisons are described, some of which for the first time now find a place in a textbook of this kind. Amongst these we notice (at least, as not appearing in the first edition of the book) acetylene, bromoform, trional, creolin, cicuta virosa, &c.

In these chapters, again, the plan has been adopted of printing the less important poisons in smaller type. The symptoms, fatal doses, and methods of treatment are fully given, and to those students who wish for an advanced textbook on forensic medicine and toxicology we can strongly recommend this volume which will moreover form a most valuable book for all medical practitioners. A medical man may at any time be called upon to help the law in cases of suspected murder and unless the minutest precautions are taken to conduct the medical examination properly the medical witness may find himself in a very unpleasant position under the fire of cross-examination, but if he has carefully considered Dr. Mann's observations on similar cases he may enter the witness-box with every confidence.

L'Allaitement Mixte et l'Allaitement Artificiel. By HENRI DE ROTHSCHILD. Paris: Masson et Cie. 1898. Pp. 659.

THIS book deals with an important subject at considerable length, but the length is scarcely to be gauged by the number of pages, since only 242 are devoted to the text while about 110 are occupied with clinical observations, charts, tables, and diagrams, and the concluding 300 pages are occupied by a bibliography from the year 1519 to 1897. The author commences with a consideration of the nursing of infants at the breast and speedily passes on to deal with the causes which may necessitate artificial feeding, and in turn he reviews the conditions which affect the mother and the child. The chemical composition of milk is then considered in some detail and the author deals separately with the numerous micro-organisms which may be found in milk. The conditions suitable for a model dairy are then detailed and this includes a description of pasteurisation by means of which the various preservatives, such as borax, boric acid or salicylic acid, may be dispensed with. Great stress is laid upon the nature and cleanliness of the feeding bottle, but the most important chapter in the book is that on Sterilisation. This contains full descriptions of the various modes which have been recently recommended. Short sections are devoted to a consideration of forms of fermented milk, koumiss, and kephir, while more space is given to a consideration of condensed milk. The bibliography appears to be very complete and contains references to no less than 2877 signed and unsigned papers connected with this subject.

The Water-supply of London; or, Suggestions for an Illimitable Supply of Water to London at a Comparatively Small Cost. By C. H. F. ROUTH, M.D., M.R.C.P. Lond., Fellow of University College, London. London: Baillière, Tindall and Cox.

THE importance of the water-supply of London is so great that any honest attempt to throw light on the matter should not be passed by. Dr. Routh's pamphlet gives nternal evidence that the subject has engaged his attention, that he has spent a good deal of time and trouble in making abstracts of various reports on the London water-supply, and that as a result he has come to certain conclusions with regard to what it would be best to do.

The pamphlet contains an abstract of the Report of the Royal Commission upon the Water-supply of the Metropolis which was issued in the year 1892 and is commonly called the Balfour Report. This is followed by an abstract of the Report on the London Water-supply which was given by Mr. (now Sir) A. Binnie, engineer to the London County Council. The third abstract is from a paper by Mr. Thomas Hennel which was published in the year 1879 and which treats of the supply of sea-water to London. An abstract of a paper by Mr. Paterson on "The Hermite System of Sanitation of Towns by Electricity" follows.

With regard to the abstracts of these various papers and reports it may be said that they are carefully made and appear to give a fairly accurate summary of the reports with which they deal. Those who are not acquainted with the Balfour Report may, for example, get a very good general idea of its recommendations by reading the abstract. However, anyone who wishes to make a serious study of the question would do better to refer to the original report.

While giving every credit to Dr. Routh for the care which he has devoted to the work he has undertaken, we cannot think that the pamphlet will do anything to help anyone to solve the question as to what it is best to do with regard to the future water-supply of London, nor can we agree with all the conclusions to which the writer comes. The pamphlet shows that the author has bestowed a good deal of thought on the matters with which he attempts to deal; but it does not suggest that he possesses a sufficient grasp of the technical points of the subject to make his views, taken as a whole, of any weight.

The first conclusion to which the writer comes is that "the sea being illimitable, even during droughts, would always enable us to condense it for fresh water." No one has ever denied that there is plenty of water in the sea, and, therefore, with regard to quantity no one would be likely to take very serious exception to the statement which Dr. Routh apparently wishes to express. A captious critic might suggest that the sea is not "illimitable" either during droughts or at other times and, further, that the laws of condensation do not, as he suggests, depend on the quantity

of water in the sea. The second conclusion is that the plan of using sea-water would not affect any of the existing water companies, but that it would relieve them of the necessity of supplying so great a quantity of water for baths, for watering the streets, and for extinguishing fires. The third conclusion is that if sea-water were brought to London its electrolysation would be the cheapest and most effective antiseptic and would greatly improve the sanitary condition of London. The fourth conclusion is that the London water companies might graft this plan on to theirs as a useful adjunct and, finally, it is suggested that the "Government" or the London County Council might undertake the work of bringing the water "to the profitable advantage both of themselves and the public." There is no doubt that a plentiful supply of sea-water would be a great boon to London, but the notion that the sea would be a good source of supply for drinking purposes is open to serious question from more than one point of view.

The History and Technique of the Vaginal Radical Operation. By Professor Dr. LEOPOLD LANDAU and Dr. THEODOR LANDAU of Berlin. English Translation by B. L. EASTMAN, M.D., Assistant in the Landau Frauen-Klinik, Berlin, &c., and ARTHUR E. GILES, M.D. Lond., Assistant Surgeon, Chelsea Hospital for Women, London. London: Baillière, Tindall, and Cox. 1897. Price 7*s.* 6*d.*

BY the expression "vaginal radical operation" the authors mean removal of the uterus and the uterine appendages by the vaginal route. It is the operation they make use of "in the treatment of double inflammatory or suppurative diseases of the tubes and ovaries"—a class of cases which, according to the authors, resists every other method of treatment. They regard the removal of suppurating appendages by abdominal section as unsatisfactory and maintain that, though the immediate results may be good, permanent cure does not follow; in fact, they regard such operations as incomplete in that the diseased uterus, the real source and origin of the affection, is left behind. Certain it is that there are such cases which have been treated by abdominal section and have recovered from the operation but have not been permanently cured, and it may well be that these failures are to be attributed to the fact that the uterine ends of the Fallopian tubes, necessarily left in the pedicles when the uterine appendages are removed in the ordinary way by laparotomy, remain as sources of irritation and future trouble. We should be inclined to regard the failures rather as due to the portions of the tubes left than to the fact that the uterus remains. It is of course impossible to remove the tubes in their entire extent without removing the uterus. The book deserves the thoughtful attention of those engaged in dealing with the class of cases under consideration. So far the "vaginal radical operation" has not become, so to speak, acclimatised here, but perhaps it may become so in the future. Those who wish to try the operation will find ample directions for the purpose in the work before us. There are some ingenious diagrams at the end of the book, in which the parts removed are spread over wire frames and seem to make up, when put together, the uterus and its appendages.

LIBRARY TABLE.

Transactions of the Iowa State Medical Society. Vol. XIV. Forty-fifth Annual Session, 1898. Desmoines, Iowa: The Kenyon Printing and Manufacturing Company. 8vo, pp. 351. —The papers read at this annual meeting of the Iowa State Medical Society were numerous and many of them were of great interest. We may especially mention a paper on Transitory Albuminuria, its Significance in relation to Life Insurance, by Dr. Jenkins of Keokuk, and a paper on the Pathology of Empyema and Hydrothorax. A very important appendix contains a report of the chairman on the Section of State Medicine, in which particulars are given of all the Bills connected with medical subjects which were passed during the preceding year by the State Legislature; the most interesting of these is one which is directed against the neglect of parents in cases of ophthalmia neonatorum. We must add a word in praise of the excellent manner in which the volume has been printed.

Statistical Tables of the Patients under Treatment in the Wards of St. Bartholomew's Hospital during 1896. By the Medical Registrars: JAMES CALVERT, M.D., F.R.C.P. Lond., and ARCHIBALD E. GARROD, M.D. Oxon., F.R.C.P. Lond.; and the Surgical Registrar, JAMES BERRY, B.S. Lond., F.R.C.S. Eng. London. 1897. Pp. 230.—The large amount of useful work which is done by medical and surgical registrars is often hardly appreciated at its full value and this more especially applies to the reports which are issued annually by many of the hospitals. Only those who have themselves prepared such statistical reports know how much time and trouble their preparation requires. The reports of St. Bartholomew's Hospital have usually been some of the most elaborate in London and the volume before us seems to be even more detailed than before. The medical report consists chiefly of a series of tables in which the diseases are classified according to the "nomenclature of diseases" drawn up by the Royal College of Physicians of London. In each disease, in addition to the total number of cases male and female with the results "discharged" or "died," we find the cases divided into nine classes according to age. The numbers which represent the fatal cases are in a very heavy-faced type; this is a great help in reading the tables. Following these tables is an index of the diseases and chief symptoms, with references to the volume in which the notes of each case can be found, and a similar index of the post-mortem examinations on medical cases. The Surgical Report by Mr. James Berry is even more elaborate. In addition to the tables of surgical diseases, arranged like the corresponding one in the medical section, there is a similar table of operations and each of these has an appendix in which all the important cases in each section are given in fairly full detail—for instance, the notes of a case of anthrax occupy thirteen lines of small type. Very many cases of interest are recorded, and we should have liked, had space permitted, to quote some of them, but we have said sufficient to show the very large amount of labour which the abstracting of so many cases must have entailed. The value of such tables and notes as these to anyone who is investigating the statistics and results of any disease can hardly be over-estimated.

La Cura Razionale dei Tisici e i Sanatorii. (*The Rational Treatment of Phthisis especially as conducted in Sanatoria.*) By Dr. AUSONIO ZUBIANI. Pp. xvi. and 239. Price 2 lire (1*s.* 8*d.*).—*Raggi di Röntgen e loro Pratiche Applicazioni.* (*The Roentgen Rays and their Practical Applications.*) By ITALO TONTA. Pp. 160. Price 2½ lire (2*s.*). Milan: Ulrico Hoepli. 1898. These two volumes belong to the series of "manuali Hoepli" and are uniform with Dr. Rebuschini's work on the Serum Treatment of Disease which was noticed in our columns on April 30th (page 1193). We are glad to see that Dr. Zubiani recommends the treatment of phthisis by strict attention to personal hygiene, by remaining most of the day in the open air, and by plenty of appetising nutritious food. These conditions, however, can seldom be fully realised in the patient's home life. Dr. Zubiani describes the essentials of sanatoria in considerable detail and gives an account of those established in England, Germany, France, and Switzerland. Signor Tonta's treatise on the Roentgen rays is devoted mainly to their medico-chirurgical applications. It is copiously illustrated, chiefly with radiographs of fractures, dislocations, and congenital absence of bones, foreign bodies embedded in the tissues, &c., and presents in

a convenient form many interesting cases collected from the voluminous literature of the subject.

La Protection et la Santé de l'Ecolier (The Protection and the Health of School Children). By Dr. C. DELVAILLE. Biarritz: A. Lamaignère. 1897. Pp. 15.—In this pamphlet Dr. Delvaille of Bayonne has printed an address delivered by him at a public meeting in Biarritz last year, an address well adapted to a popular audience and full of sound advice on matters of school hygiene. His principal object was to impress on his hearers the necessity of physical culture for the young. It is not enough that the school forms should have backs and that the class-rooms should be well ventilated and well lighted. There must be playgrounds, games should form part of the day's work, and children's temperance societies should be formed, through the medium of which a beneficial effect may even be produced on self-indulgent parents. For the last ten years Dr. Delvaille and Dr. Breucq have been engaged in the good work of sending delicate children of the poorer class in Bayonne for a month to the seaside at Ciboure-St.-Jean-de-Luz during the school holidays, the effect of which has naturally been very beneficial to their health and growth.

Elementary Physics, Practical and Theoretical (First Year's Course). By JOHN G. KERR, M.A. London: Blackie and Son. 1898. Price 1*s.* 6*d.*—This work is written to meet the requirements of the Education Department and details a series of simple experiments for the beginner; it is a valuable addition to the ordinary theoretical elementary text-book, when practical work is being rightly insisted on, in the conduct of any scientific teaching. We are glad to see the introduction of the "curve" as a convenient means of recording results in a few cases, furnishing a step to its much more extended use in more advanced work.

New Inventions.

COMBINATION SURGICAL SCISSORS AND DRESSING FORCEPS.

THE accompanying illustration shows an instrument which have found most useful and convenient in the routine work of house surgeon and dresser. It combines in one the functions of surgical scissors and dressing forceps and it may also be used as an emergency "clip" and sinus dilator. The blades of a medium-sized pair of dressing forceps (Spencer Wells' pattern) have been made broader and furnished with scissor edges between the terminals and the axis. At the same time a rib has been left on the unsharpened edges which renders the instrument usable as a small sinus dilator. It can be obtained with or without detachable blades, is easily cleaned and sterilised, and is of a convenient size for the pocket. It is exactly 5 in. in length. The fact that the number of instruments on a chatelaine may now be reduced will recommend it to nurses; and house surgeons and dressers will recognise the advantage of using a single instrument which can replace without inconvenience the necessity for carrying two. I believe the cost is little in excess of an ordinary pair of scissors. The "scissor-forceps" are manufactured by, and may be obtained from, Messrs. Reynolds and Branson of Leeds.

H. DE PAIVA B. VEALE, L.S.A. LOND.,
Late House Surgeon, Leeds General Infirmary; Resident Medical Officer, Ida Convalescent Hospital; House Physician, General Infirmary, Leeds.

DEATHS UNDER ANÆSTHETICS.

A DEATH under chloroform occurred recently at Bispham. The patient, a lad, aged sixteen years, had injured his arm at football and the resulting stiffness necessitated forcible movement under an anæsthetic and the removal of a sequestrum. The lad was apparently somewhat delicate and pale. In the evidence given before the coroner's court, according to the report which has reached us, the nurse, who, by the way, appears to have been questioned as if she were a medical man, stated that the patient did not seem to be taking the chloroform as he ought to have done. It was "sprinkled on lint at intervals" and the boy was told to count aloud. At 24 he stopped and although urged to say 25 he made no reply. The medical man drew him to the side of the bed and performed artificial respiration. In spite of this and other restorative measures he died. The chloroformist stated that he gave only 40 minims of the anæsthetic when a convulsive seizure came on. Death, he believed, was due to paralysis of the respiratory centre the result of shock and chloroform. In reply to a question why ether had not been given for the present operation, as it had been on previous occasions he said he had ether with him but decided that chloroform was safer under the circumstances; indeed, he would not have liked to have given ether. "From ether the same form of death occurred—viz., respiratory paralysis." Now unless the report before us is quite unreliable some of these statements are incomprehensible. In the first place the form of death, sudden failure of respiration and circulation, occurring after counting 24 in a patient who has had less than a drachm of chloroform, is not what usually takes place when respiratory paralysis results from a gradual overloading of the circulation with chloroform. Snow pointed out that "when chloroform vapour largely diluted with air is long continued it may cause not real asphyxia but a mode of death resembling it owing to the medulla oblongata and nerves of respiration becoming over-narcotised." One of two causes seem to have been instrumental in this case—fear, or too strong a vapour suddenly taken in and paralysing the heart. The youth had counted to 24 and then expired. Snow recorded at least 4 cases in which death suddenly occurred, although insensibility had not previously shown itself. Reading the evidence it appears that throughout the administration the anæsthetic was badly taken; probably the breath was held; possibly too strong a vapour was presented to the patient. It does not appear what reasons decided the administrator to condemn ether and select chloroform. The report itself seems to show not only no reason to select the less safe narcotic, but rather to contra-indicate its use. It is clearly an error to speak of the mode of death under ether as being on a parity with that under chloroform when referring to a young patient devoid of obstructive lung disease. Even the commonly accepted fallacy that a more profound narcosis and greater muscular relaxation are obtained under chloroform is not alleged as influencing the choice of anæsthetic in this case. We cannot but wish that the real properties and limitations of ether were better understood. In the report of the next case we are informed that ether or the A.C.E. mixture could not have been given for the kind of operation performed. The operation appears to have been one for hæmorrhoids! The fact that the patient was "fat and flabby" possibly made the anæsthetist anxious to avoid venous congestion and struggling such as may occur in such people when the ether is not well taken. The patient was a woman, aged twenty-seven years. Chloroform to the extent of 2 drachms was given (?) by the open method when the woman died. She struggled "very much indeed" when the anæsthetic was being administered. It seems more than probable that an overdose was inhaled during the struggles. Birmingham has to report another fatality under chloroform. The patient, a child aged ten years, was admitted into the General Hospital to undergo an operation for removal of post-nasal adenoid growths. Chloroform was given by an experienced anæsthetist and the operation was rapidly performed. The child was recovering from the anæsthetic at the time of the operation and death was believed to be due to shock reacting upon a nervous system incompletely protected by full anæsthesia. Respiration was noticed for one and a half minutes after the circulation had become imperceptible. The coroner in this case urged the necessity of fully advising parents before giving their children an anæsthetic. We concur with the recommendation.

THE LANCET.

LONDON: SATURDAY, JUNE 25, 1898.

HOWEVER political opinions may differ as to the merits of the Workmen's Compensation Act, 1897, there can be no doubt that it is one of the most interesting experiments in modern legislation. None will quarrel with the great underlying principle of the measure that the workman of our country should be in some way safeguarded against the perils of his employment, even against those which obviously arise from his own fault and carelessness. The Act comes into force before our next issue and it becomes the duty of the Home Office, which is primarily answerable both for the Act and the administration of it, to take all necessary steps to ensure its impartial application in individual cases. Though every endeavour has been made by the authors of the Act to reduce the chances and the cost of litigation to working men and to their employers, it may be pretty confidently predicted that the measure will have the effect of giving much new employment to lawyers, for no perfection of the drafting art has ever yet succeeded in making an Act of Parliament so plain as not to admit of differences of reading and dubieties of application.

It is a feature—and a somewhat novel feature—of this Act that those who administer it will require in many contingencies the assistance of sound medical advice. Without this assistance to their judgment the unfairness and mischief likely to be wrought by the Act would more than justify all that has been said against it by its severest critics. Therefore it is not remarkable that the Home Office has been at considerable pains to explain in its memorandum the duties of the medical referees whom it intends to appoint under the Act, the qualifications which it regards as indispensable, the remuneration which it proposes to give for such services, and the views which it holds in reference to the nature and dignity of them. We have already published the Memorandum of Sir MATTHEW WHITE RIDLEY[1] and in a later issue we have commented on it, but our readers will do well to study it for themselves. The subject is so important that we make no excuse for recurring to it. The medical profession has always maintained that in legal procedures it would be well if medical evidence could be divested of all appearance of partisanship. In the case of the Act now under discussion and of the appointments under it this principle is to prevail. The medical referee is not to be examined as a witness in the first instance. He is to be consulted at their discretion by the judges and the arbitrators. He is to advise them, to make a written report to them of cases which they refer to him, and to answer questions propounded by them. His position will be that of an assessor, an *amicus curiæ*. It will be judicial and within its own range authoritative. We need not point out that the creation of a number of appointments the holders of which will be placed in such a position is a matter of serious consequence to the profession at large. Such a use of medical knowledge has been too long delayed, but everything points to the conclusion that in the future it will be more and more common as the complexity of social and political problems involving medical elements increases. This Act not only creates new appointments, but it involves a new appreciation of medical science, knowledge, and experience, and as such is one of the greatest interest to a profession which has too long been inadequately used in courts of justice. The profession will do well to use its influence in promoting the appointment of suitable men for such functions and in according to them, when appointed, the respect due to their office. The questions in the decision of which the medical referees will have to assist will be by no means easy and novel points of law and legal bearing may be involved. The greatest care will have to be taken at first to avoid, on the one hand, too much dogmatism and on the other too much ambiguity. But with care and the selection of good men these difficulties will be surmounted and the medical profession will assist the legal in making the Act work well, not only for the workmen whose interests are primarily involved, but for the industry which gives them employment and the State prosperity.

The fees seem at first sight reasonable, but they are not too liberal for the services required and may have to be revised. The Memorandum of the Home Secretary evidently contemplates the appointment of men of high standing and with experience of hospital, and especially of surgical, work. There can be but one opinion as to the necessity of appointing men whose authority and judgment will be respected by their neighbours and by the profession. Such are not necessarily or in every case men of consulting or hospital rank. The country abounds in general practitioners of skill and experience and reputation whose judgment would be respected by the profession and the public alike. We therefore hope that no hard-and-fast line will be laid down which will exclude such men from the appointments. But the Home Secretary may be assured of the support of the profession in making only such appointments as will bear criticism. We shall look to the working of this system with much interest. It would be sanguine to expect no errors. To give exact decisions upon the disabling effects in the present and future of all injuries to workmen in the complicated industries of the United Kingdom—for the Act is to apply throughout—will be a task of profound difficulty. But there will be the more credit to the profession in discharging it successfully.

THE inquest recently held at Longton concerning the death of MARY ANNE POOLE has served to accentuate the widespread feeling of suspicion and unrest in connexion with perils known to attend the manufacture of pottery ware. The deceased succumbed to epileptiform convulsions—of that there can be no doubt; but the all-important issue placed before the jury was not the proximate but the primary cause of death. The medical evidence was too equivocal to warrant other than an open verdict. We do

[1] THE LANCET, April 23rd, 1898 p. 1137.

not suggest that it could have been different under the exclusive circumstances in which the practitioner conducted his investigations. The inquiry was adjourned for the purpose of enabling a post-mortem examination to be made in order that the question of "lead poisoning" might be determined—a most desirable procedure. But the only means—a chemical analysis—by which the doubt could with any certainty be dispelled was utterly ignored. The practitioner to whom the coroner issued his order was not in the least to blame for this, since his instructions did not include this particular method of inquiry.

It was alleged that the deceased had suffered from symptoms of plumbism and that her mother had died from epilepsy the result of chronic lead poisoning. In each case it was suggested that the metal had gained access to the system through the respiratory tract. The alternative theories as to the cause of the epileptiform convulsions placed before the jury were (1) lead poisoning; (2) hereditary epilepsy; and (3) exposure to cold. The last although admitted as a possible explanation may for practical purposes be excluded on the ground of its extreme improbability. The question of heredity was based on the assumption that the mother of the deceased was the subject of true epilepsy, whereas, as before mentioned, there appeared to be strong grounds for the popular belief that she also had fallen a victim to the insidious poison. But supposing this belief had no certain foundation in fact it was an additional incentive to exhaustive inquiry. How deeply the public mind has been exercised with regard to the dangers to which pottery workers are exposed is shown by the discussion which took place at the special meeting of the North Staffordshire Chamber of Commerce and by the interpellation in the House of Commons. We regret to find that, instead of a common desire being evinced to arrive at the absolute truth as to the degree—the existence cannot be questioned—of the perils to which the employés in the industry under consideration are exposed, there seems to be a spirit of antagonism which on the one hand leans to unmeasured distrust and condemnation and on the other to a tendency to ignore or minimise what is a source of danger to the public health. It is difficult to repress a feeling that commercial enterprise and profit have been preferred to the well-being of the country. In response to questions put to him Sir MATTHEW WHITE RIDLEY admitted that the report of the certifying surgeon contained matter which he deemed it inexpedient to disclose. It needs no great stretch of the imagination to idealise a state of affairs startlingly disquieting.

To the suggestion that the Home Secretary should order the body of MARY ANNE POOLE to be exhumed in order that the matters in dispute might be cleared up by an exhaustive chemical analysis there comes the reply that such a procedure is without precedent inasmuch as there is no allegation of illegal practices. Such an argument, to our minds, is too much encircled with red-tape. Surely a possible danger to the health of hundreds of operatives and to the lives of many is sufficient reason that no stone should be left unturned which might help to prove the unreasonableness or not of deep and widespread alarm. The conditions under which pottery operatives work and the effects of the operations concerned have already been thoroughly gone into and reported upon by Mr. ASQUITH'S committee, appointed in 1893, and it is the duty of the Government to take measures for the protection of the workers in this industry. It will be a lasting reproach to our independence if juries are compelled for want of available assistance to return open verdicts when a definite presentment is within reasonable reach, as we affirm it was in the case of the deceased woman POOLE.

THE recent case of death from phosphorus poisoning of a girl employed in a match factory has again drawn medical attention to the risks run by persons employed in that occupation. Numerous efforts have been made to minimise such dangers and considerable success has been obtained. The manufacturers assert that they do all that science suggests to render the work as little dangerous as possible, but as long as the present processes are continued certain risk must be encountered. There is a large demand for matches which may be struck upon any roughened surface and such matches cannot be made without the poisonous yellow phosphorus. Many of the foremost chemists in Europe have tried for years to make a match which shall answer the demand without yellow phosphorus, but they have failed, and so far as is at present known yellow phosphorus is absolutely necessary in the manufacture of "strike anywhere" matches. These statements made in the press by the managing director of Messrs. BRYANT and MAY emanate from an interested source, but they are none the less true. The substitution of the amorphous for the yellow phosphorus in the manufacture of matches by machinery in strictly confined spaces whence little or no fumes could escape would go far to avert the evil. In our Paris Letter in THE LANCET of March 13th, 1897, attention was drawn to the discussion which had taken place in the Academy of Medicine of Paris and to the hygienic conditions which it is desirable to impose upon the manufacture of matches. Among the conclusions arrived at were the following: "The suppression of the use of white phosphorus is the only certain way of insuring health to the workers in this manufacture. ..... The present unhealthiness can be diminished by thorough ventilation, short shifts for those men working in the dangerous shops, careful selection of healthy hands, and periodical medical inspection, with power to prohibit the labour, either for a time or altogether, of anyone with lesions of the mouth or whose general health is impaired." These latter points are usually lost sight of and in justice to the employers it must be pointed out that the employed can greatly lessen the dangers to which they are liable by attention to their own health.

It is not yet possible to say definitely how phosphorus fumes act upon the bones in this deadly manner, but WEGNER[1] demonstrated that necrosis of bone could be produced by the action of the fumes of phosphorus, consisting chiefly of the tetroxide, we believe, in those portions from which the periosteum had been removed. Hence, it is suggested that this explains the peculiar liability of the

[1] Virchow's Archiv, 1872.

jaw to become affected in those persons working with phosphorus. The fumes may enter a carious cavity in a tooth and so reach the periosteal membrane. It is by reason of such knowledge that regulations are formed for the dismissal from match factories of operatives suffering from bad teeth. But care of the denture of the operatives is not the only or a sufficient precaution to be taken. Strict attention, too, should be directed to the general health and none but persons who are to all intents and purposes physically sound should be employed. Personal cleanliness is of the first importance. The hands of the employés should be carefully washed before meals which should be taken outside the factory. The recent special rules issued by Dr. WHITELEGGE, the Chief Inspector of Factories, for the regulation of pottery works, lay great stress upon this point.

"The occupier" (of the factory), runs one rule, "shall provide and maintain sufficient and suitable washing conveniences for all persons employed in the places and processes named in Rule I., as near as is practicable to the places in which such persons are employed. The washing conveniences shall comprise soap, nail-brushes, and towels, and at least one lavatory basin for every five persons employed as above, and each such basin shall be fitted with wastepipe and have a constant supply of water laid on by tap."

Such regulations as these should be the rule of every factory where the fumes or dust produced in the course of trade are deleterious to human life.

The foregoing remarks will convey to our readers little or nothing that is not known to them, but we make no excuse on this score, for when the public are greatly excited it is necessary that the medical profession should have the simple facts ready to hand in case they should be called on to bear part in a controversy. There is at the present time no known method of making "strike anywhere" matches without danger to the operatives, *yet the public will have these matches.* The Belgian Government have offered a premium of 50,000 francs to the inventor of a paste for matches which will be free from poisonous phosphorus and which will ignite on cloth or any other surface, but no one has come forward to claim the prize. Until such a discovery is forthcoming the employers, supported by the workers, must take every precaution to employ only healthy hands and the hands must coöperate with their masters. It is only by mutual efforts that harm can be warded off. A last word. In spite of recent events we cannot believe that we need warn certifying surgeons as a body against connivance in the suppression of notification to the Home Office. Such suppression cannot be common, nor is it credible that any class of medical men will be found lightly to bear false witness at inquests or to tell lies upon death certificates.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.—It is proposed by the subscribers of the South Devon and East Cornwall Hospital, Plymouth, to have the portrait of their chairman, Sir Massey Lopes, Bart., who is now approaching his eightieth birthday, painted and placed in the board-room of this institution. Sir Massey Lopes has been a most munificent supporter of this charity, having given about £16,000 to the funds, and having only recently erected and partially endowed a beautiful chapel for the hospital.

Annotations.

"Ne quid nimis."

HOSPITALS AND HOMES FOR SICK AND DISABLED SOLDIERS.

THE question of making some provision for soldiers disabled by sickness and wounds by the establishment of convalescent homes to which men discharged from military hospitals might proceed, instead of being dependent upon the rates and relegated to workhouse infirmaries, has of late not only been a good deal written about, but it has been made a subject of discussion in the House of Commons. Notice has already been given by Captain Norton that he will again raise the question when the debate on the Army Estimates takes place. The matter is a really important one, and the *Morning Post* deserves credit for having called attention to it. It is a subject which has hitherto been neglected, but it nevertheless cannot be denied that it falls to the duty of the State to look after its discharged soldiers and sailors, and it would certainly be very politic in its own interest that it should do so, considering that the British Army is not raised by conscription but is a voluntary service army. In order to give a practical aim to our remarks we may indicate the directions in which something more is required than is done at present and the way in which it might be set about. As everybody knows who has had any personal experience of sickness a sick man does not regain his health and strength all at once nor does he easily do so—if the illness has been at all a severe one—in the wards or grounds of a hospital. He is not, moreover, immediately fit to return to his ordinary work on recovery or during convalescence. In the case of a soldier he remains in hospital until he is supposed to be cured and he is usually put upon some light and easy duty or is granted sick furlough at the recommendation of the medical officer when he goes out. In many cases this practically works very well, but in some it does not or does not go far enough. Much, of course, depends upon the nature and duration of the illness. What is wanted is that sick and convalescent soldiers should, in suitable cases, have an opportunity of enjoying a change of air and scene either in the immediate vicinity or at a neighbouring seaport or country garrison in connexion with some local military hospital, convalescent establishment, or barracks, and there should also be more facilities than exist at present for sending suitable cases of sickness from one locality to another. Provision might be made for accommodating sufferers or convalescents from pulmonary diseases, for example, on the South Coast, the Isle of Wight, or at Shorncliffe or Aldershot camp, and a separate block of buildings in connexion with existing hospitals or barracks at those stations might, we think, be erected for the purpose. There is no reason why the additional sick accommodation provided in this way should not lead to a reduction of the established rate of hospital accommodation by being included in, and reckoned as part of it. As regards soldiers invalided from the army on account of serious, incurable, or chronic diseases or the effects of injuries the matter is one of larger dimensions and presents more difficulties; but we think that a plan might be devised by the coöperation of the civil population with the Government. If the localisation or territorial scheme were really and properly carried out there should be no difficulty, for it would surely be a matter of pride and patriotism for one county or district to vie with another in taking care of the sick and wounded soldiers who belonged to regiments and corps with the military deeds and traditions of which the local population were so closely interested

and associated. The Government should in any case furnish a given amount of the accommodation, and this could be supplemented to the necessary extent by institutions and refuges provided from private funds subscribed by the civil population. A practicable scheme could, we think, be initiated and worked out, and it seems clear to us that something of the kind will have to be done.

THE NEW MEDICAL SCHOOLS AT CAMBRIDGE.

THE Regius Professor of Medicine has issued a further appeal for subscriptions or donations towards the building fund for providing new medical schools. It is only too well known that owing to agricultural depression the funds of the University have of late years fallen very low. The medical school of Cambridge is one of the best in the world, but, to quote the Vice-Chancellor, is "the worst housed medical school in England." To assist it is not a matter merely of local importance but may almost be described as national, for the more that is known about pathology, therapeutics, and, above all, hygiene, the better for the nation at large and the greater the saving by means of the greater health of the people. The Senate has granted a site and there only remains to find money for the building. A sum of £20,000 is required, not surely a very large one for the wealthy of this country to provide. It is, of course, for Cambridge men to bestir themselves in the first instance and already a fair amount has been subscribed. Sir Reginald Hanson has given £100 on condition that nine other non-medical graduates do the like and the Mercers' Company has given £1050. Subscriptions or donations may be paid by instalments during 1898–1901 inclusive to the University treasurer, Mr. F. Whitting, King's College, Cambridge.

RECTAL ASPIRATION.

IN the *Gazette Médicale de Paris*, May 28th, 1898, Dr. Marcel Baudouin has published an extraordinary case—the second on record—of rectal aspiration, or, as he terms it, *pétomanie*. He published the first case in the *Semaine Médicale*, April 20th, 1892. The subject was a man who could first aspirate by the anus and then expel air or liquid in large quantities. He was in the habit of giving public exhibitions of his powers. The second case was that of a married woman, aged about thirty years, the mother of five children. For a long time she had noticed the facility with which she expelled gas from the large intestine and, thinking that she was affected with some malady, she confided her troubles to a friend who had attended some of the exhibitions just mentioned. The latter assured her that instead of disease she had a fortune—in her abdomen! Accordingly she attended the exhibitions and soon learned enough to embark on this strange profession. Having aspirated a large quantity of air into the intestine she expelled it, producing characteristic sounds of various tones and intensities in imitation of laughing, whistling, the quacking of a duck, &c. These sounds were no doubt due to a power acquired over the anal muscles similar to that over the laryngeal. She introduced into the anus a cannula connected with a tube having a receptacle at the other end into which was placed a lighted cigarette. The cigarette burnt brightly when she aspirated; the smoke was driven out in a cloud when she expelled the air. But her powers appear to have been inferior to those of her model, to which even the *Temps* devoted an article. He could imitate the sound of cannon, musketry, thunder, the violin, the trombone, and the human voice; and he could even sing in this extraordinary way! However, there is nothing new under the sun, for in the writings of St. Augustine there is a description of these very powers. How is the aspiration of the air performed? Dr. Baudouin observed that with closed glottis the man made a strong inspiratory effort, attended by great depression of the abdominal wall and of the supra-clavicular regions. Negative pressure would be thus produced in the abdomen, which would be enlarged by the elevation of the lower ribs and by the upward movement of the diaphragm towards the thorax. Dr. Baudouin describes the auxiliary muscles of inspiration and probably the diaphragm as assisting in the action. The latter supposition cannot be correct. Contraction of the diaphragm would prevent, not assist, the action. With the inspiratory effort there must be, we should think, relaxation of the sphincter ani. M. Baudouin compares this abnormal power to that possessed by certain individuals over the muscles of the external ear. But a much closer parallel is furnished by cases described by Dr. John Wyllie in the Edinburgh Hospital Reports, 1895, of neurotic individuals who acquired the power of creating by muscular action negative pressure in the œsophagus, and thus sucked air into the stomach. In THE LANCET, of Aug. 1st, 1896, Dr. G. A. Sutherland published a remarkable case of this kind. The power of swallowing air possessed by one of Barnum's "freaks," who could rapidly pass from the appearance of emaciation to corpulency, to which we referred in THE LANCET of Feb. 12th, 1898, may also be mentioned. But if the air was really swallowed and not aspirated the action is of a different kind and is distinguished by Dr. Wyllie from air sucking.

THE BRADFIELD PLAY.

AT Bradfield College on June 21st occurred the first performance of the Greek play, now become quite an institution there owing to the energies of the Warden, Dr. Gray. It is difficult to know whether we should praise more the artistic merits of the production or the qualities of organisation by which an intellectual entertainment is provided both for the school and the public without in any way interrupting the drier and more necessary educational curriculum. Parents, and there are such, who are apt to look askance at dramatic entertainments of all kinds, suspecting interference with lawful studies, should know that all rehearsals are conducted on half-holidays and no extras are permitted. The spectacle of the *Antigone*, performed in the beautiful open-air theatre with such archæological exactness as modern scholarship and the conditions of modern art allow, cannot fail to rouse interest even in the dull, and to the public so hospitably admitted it has given as much pleasure as to the clever youths and masters at Bradfield. The boys will look back in after life with something like gratitude to Dr. Gray for giving them an impetus to the study of Greek literature which no imposition or parsing can ever succeed in doing. It would be ungracious to cavil at a performance so generally excellent in intention and achievement. There was, however, a certain lack of unity in the rendering. Greek tragedy should be regarded more as the stately liturgy of a dead religion than the primitive beginning of what passes for modern drama. The curious convention of the chorus constantly reminds us how impossible it is to effect any reconciliation with the classical and modern stage, and those who appreciated the scrupulous care with which the other conventions were adhered to regretted that no boys could be found to take the parts of Antigone and Ismene. The introduction of talented ladies into the cast deprives these productions of their essential characteristics, though we believe Cambridge is responsible for the unclassical precedent. Mr. J. H. Vince gave a really striking interpretation of the part of King Creon and Mr. T. B. Layton as second messenger both in gesture and voice showed an archaic restraint which was beyond all praise. Mr. S. T. Sheppard, the Tiresias, marred the dignity of his part and his excellent elocution by keeping his body bent to give the

illusion of old age—a trifling with realism which was quite out of place. Mr. H. H. Pigott as the Coryphæus led his chorus with enormous skill and wisely abstained from all facial expression which in the absence of masks is both satisfactory and convincing.

ARMY MEDICAL APPOINTMENTS IN THE WEST AFRICAN SERVICE.

IN connexion with the examination of candidates for thirty-nine commissions in the Army Medical Staff, which it is announced in our advertisement columns will be held at the Examination Hall, Victoria Embankment, W.C., on Aug. 5th next and following days, we are asked to point out that appointments in the West African Service are again open. Applications for admission to the competition should be made in writing to the Director-General of the Army Medical Department, 18, Victoria-street, London, S.W. The list will be closed on July 27th.

STREET NOISES.

THE Local Government and Taxation Committee of the London County Council has drawn up a series of by-laws under the Local Government Act, 1888, and the Municipal Corporations Act, 1892, one of which is as follows: "No person shall in any street or public place, for the purpose of hawking, selling, or distributing any article, shout or make other loud noise in such a manner as to cause nuisance or annoyance to residents or passengers, or to persons occupying shops, warehouses, or offices. Provided that this by-law shall not apply to costermongers if and so long as by virtue of the Metropolitan Streets Act (Amendment Act, 1897) they are exempted from the operation of Section 6 of the Metropolitan Streets Act, 1867." The by-laws in question were to be submitted to the council at its meeting on June 21st, but their consideration was deferred until the next meeting of the Council.

THE PROSECUTION OF JOHN HAMILTON, M.D. NEW YORK.

JOHN HAMILTON of Bedford-avenue, Tottenham-court-road, appeared on June 17th before Mr. Lushington in answer to two summonses charging him with falsely pretending to and using the title of Doctor of Medicine, he being an unregistered practitioner. Mr. Muir Mackenzie prosecuted on behalf of the General Medical Council. Mr. Morton Smith defended. A medical student gave evidence that he visited the defendant at the above address and paid him two guineas for medicine. There was a brass plate on the door with the words, "John Hamilton, M.D. New York." Mr. Mackenzie argued on decided cases that the fact that the defendant held a diploma granted in another country did not entitle him to practise as an M.D. in England, but Mr. Smith said the defendant had never described himself as other than he was and pointed out that two previous prosecutions against him had failed. Mr. Lushington dismissed the summons, saying that there was no evidence to show that the defendant had used this title with intent to deceive and allowing the defence £3 3s. costs. We have quoted the *Times* report of the case almost verbally, which doubtless represents accurately its essential points. The General Medical Council will not be encouraged by such a result to continue the prosecution of such gentlemen as "John Hamilton, M.D. New York." It does not follow, however, that the Council is not right in having instituted such a prosecution. For one thing, it will satisfy those members of the Council who are anxious that the Council should wage war against all questionable uses of medical titles which are not registrable. Then, it is further very important that the present meaning of the law should be ascertained by actual prosecutions even if they are occasionally unsuccessful. How else is the Council to found a claim which must some day be made to have the law amended and fortified for the protection of the public? Certainly it does not seem to have been proved in this case that the title M.D. was ever used without the source of it being indicated. This is a weak spot in the prosecution and one which differentiates it from other cases in which the prosecution succeeded.

THE DENTAL HOSPITAL OF LONDON.

THE annual report of this hospital which has been recently issued shows that the work connected with the building of the new hospital is progressing surely if slowly. The delay has been due to two causes—namely, the complicated arrangements necessary in the interior of the hospital itself and the difficulties encountered in complying with the demands of the various authorities. The estimates for the new building have, we understand, been received from the builders and are now under the consideration of the trustees and the committee, so that in the near future we may hear that the actual work of building has commenced. The demand on all dental hospitals is bound to increase by rapid strides through the increased importance rightly placed by the public on the value of teeth; in the case of the Dental Hospital of London the building at present in existence is quite unfitted to meet all the calls made upon it and the new building is an absolute necessity. It is satisfactory to find from the report that the expenses of the management are more than met by donations and annual subscriptions. Funds are, however, urgently needed for the building fund. A perusal of the list of subscribers shows strikingly the somewhat scanty support which the institution receives from the public and the liberal aid which it receives from the dental profession.

MEDICAL JOURNALISM AND MEDICAL LIBRARIES.

IN a paper read before the American Medical Editors' Association at the meeting held in Denver on June 6th Dr. G. M. Gould outlined a plan which will commend itself to most of us—in fact, to all who feel an interest in the diffusion of medical knowledge. It is practically impossible for any individual to possess more than a mere fraction of what is continually being published and the difficulty of the case is increased by the circumstance that communications of permanent value are unavoidably associated with much that is of merely passing interest. In this field of action, however, as in many others, a combination of workers can accomplish what it would be hopeless for an individual to attempt. Dr. Gould's proposal is that public medical libraries shall be founded in every large community, so that the local practitioners may have easy access to the best reference books and to current periodicals. Such libraries would have a most beneficial influence on the intellectual life of the profession, enabling practitioners who have rare or difficult cases to compare their observations with those published by their colleagues elsewhere and encouraging them in their turn to give their results to the world for the information of others. Of course, libraries, like most human institutions, vary both in degree and in kind, but surely Dr. Gould fixes his standard of excellence very much too high when he asserts that there are not half-a-dozen good medical libraries in the United States, a country with 100,000 medical graduates and a population of 70,000,000. It is generally understood that there are in the States more than half-a-dozen centres of medical education possessing good libraries, whilst the vast collection in the Surgeon-General's library at Washington is a theme of admiration for book-lovers everywhere. The first step in the realisation

of Dr. Gould's idea will be the formation of an exchange to receive medical books and periodicals from all sources by gift or purchase and to distribute them to the members of the Association of Medical Librarians. Dr. Gould has such confidence in the ultimate success of his project that he has offered in the meantime to superintend the work for the executive committee of the association.

THE UNITED HOSPITALS ATHLETIC SPORTS.

THE annual meeting of the United Hospitals Athletic Sports will be held at Stamford Bridge on the afternoon of Saturday, July 9th, Mr. Edmund Owen being president for the year. It is hoped that there will be a good attendance, as it seems quite an open question as to which hospital will have the good fortune to secure the shield. At present this shield is at St. Mary's Hospital. A team is coming to visit London this year from Dublin University to compete with the United Hospitals team on Wednesday, July 13th. Mr. J. G. Turner, dental surgeon to St. Thomas's Hospital and treasurer of the United Hospitals Athletic Club, is working hard to render these meetings a success, and both he and the honorary secretary, Mr. C. I. Graham, of St. Mary's Hospital, will be glad to furnish information to anyone applying.

MIDWIVES AT HUDDERSFIELD.

IN his report just issued the medical officer of health of Huddersfield, Mr. E. G. Annis, refers to five cases of puerperal fever of which he received notification.

"I have investigated each of these cases," he says, "and one generally finds that the patient has been attended by a midwife, who in about a week's time or, when the patient is practically *in extremis*, calls in a medical man who has very little opportunity to do anything save give a certificate of death. In these cases I visit the midwife's home, and generally the conditions there found are absolutely indescribable. Evidences of neglect, dirt, filth, and a general squalid condition abound; in fact, it is to my mind a great wonder, and shows the great power of resistance possessed by the human organism that there are not many more cases of puerperal fever, especially considering the large amount of midwifery practice carried on by these women. I have asked all the medical men in Huddersfield to kindly supply me with the numbers of the confinements attended by them during the last year or two, and I would here tender them my best thanks for the information so obtained, and I find that roughly one-half of the children born in Huddersfield are cases attended by midwives and the other half by medical men. It certainly seems to me absolutely necessary that there should be some sort of supervision over this class of practitioners in order, among other things, to ensure that their own homes are kept in as cleanly a condition as possible."

Few will be disposed to question the conclusion of Mr. Annis that some check should be placed upon the practice of midwifery by women of the type described.

CHRONIC HYDRARTHROSIS OF SMALL JOINTS.

AT a meeting of the Société Médicale des Hôpitaux on May 27th Dr. Galliard and M. Bernard showed a patient, aged thirty-nine years, who seven years ago had suffered from generalised subacute rheumatism which soon gave place to a condition of tenderness and pain in the joints. For three years she had noticed that certain joints were swollen. The wrists and the metacarpo-phalangeal and proximal phalangeal joints were swollen and fluctuating but without redness of the skin. There was no appreciable change in the bones or cartilages or any deformity. Movements were limited and sometimes painful. Aspiration of the joints gave exit to a yellowish viscid fluid. The other joints appeared normal except that there were some swelling at the left external malleolus and crackling of the knee-joints. Dr. Galliard and M. Bernard claimed this as a form of chronic rheumatism not previously recognised. But they did not refer to what appears to have been a factor in the disease—the occupation of the patient. She worked as a steam embroiderer and had constantly to make traction with her hands flexed. We have seen one case similar to the above in which, however, the disease was more limited, affecting only some of the proximal phalangeal joints, which, however, were the most severely affected in this case. Here the only cause which could be traced was the patient's occupation. She exposed her hands to heat and had to hold her fingers in a cramped position whilst soldering tins. Admitting fully the great importance of constitutional tendencies in these cases, surely occupations which can cause disease in other tissues must at times play some part in the production of joint affections. But such an influence is often overlooked.

THE HOSPITAL FOR EPILEPSY AND PARALYSIS.

AT the annual meeting of the supporters of this hospital held on June 13th a very serious state of matters was disclosed. The lease of the present premises expires early in 1900 and the trustees of the property decline to renew the lease. Canon Duckworth, who was in the chair, mentioned another unfortunate circumstance. There had been every reason to believe that under the will of Mrs. Armitage the hospital would receive a bequest of £4000. But it was with regret that he had to announce that it had recently been found that the amount at the late Mrs. Armitage's disposal was quite insufficient to provide for all the bequests. Hence the nucleus of the new building Trust would be only £2000 instead of £6000 as was hoped for. Sir Owen Tudor Burne pointed out that through no fault of anybody concerned the ground would be literally cut from under the feet of the hospital, which, unless some £15,000 to £20,000 could be raised in less than two years, would be in a position which might be described as "homeless, houseless, and helpless." The committee deserve every sympathy in their need.

THE ABUSE OF MEDICAL CHARITY IN NEW YORK.

AT the National Conference of Charities and Correction, a notice of which by our New York correspondent has already appeared in THE LANCET (June 4th, page 1570), Dr. Frederick Holme Wiggin read an interesting historical sketch of the recent movement to restrict the abuse of medical charity in New York. He said that it had been inaugurated about eighteen months ago by Dr. Stephen Smith, recently president of the Department of Charities, and Dr. Landon Carter Gray, then president of the Medical Society of the County of New York, who showed that the ratio of those applying for medical aid had risen from 16 per cent. in 1860 to about 49 per cent. in 1895. A committee of the County Medical Society, consisting of gentlemen connected not only with the general medical profession, but with the larger teaching faculties in the city, was charged with the duty of investigating the abuse and was soon reinforced by representatives of a similar committee appointed by the New York County Medical Association. Inquiry showed that the managers of all the dispensaries in the city would not voluntarily agree to any general reform, their attitude being clearly presented in the report made to the Legislature last January by the State Board of Charities, which says that they "apparently are not and have never been in a temper to come to some mutual understanding whereby better conditions shall prevail. In a large degree and for various reasons they have become competitors in business to such an extent that it is probable that nearly half of the inhabitants of New York are now receiving practically free medical treatment." Eventually the New

York State Medical Association, the Medical Society of the County of New York, the New York County Medical Association, and seven other medical societies endorsed the plan of appealing to the Legislature to limit the abuse of medical charity and in the legislative session of 1898 a Bill was introduced which among other provisions constituted it a misdemeanour to obtain relief from dispensaries by false representations and gave the State Board of Charities control over dispensaries by empowering it to grant licences to such as in its judgment would be for the public benefit. At first the Bill met with scarcely any opposition, but when it was favourably reported by the Committee on Public Health of the Senate, to which it had been referred, such vigorous protests were made that both the friends and the opponents of the measure were heard before the Senate and Assembly Committee on Public Health. After full arguments on both sides the Senate Committee reported the Bill favourably to the Senate, which passed it with only two negative votes, but the Public Health Committee of the Assembly failed to report the measure to the Assembly, although energetic efforts were made by its friends to secure a favourable report. The measure was therefore smothered in committee and failed to become law.

THE REPORT OF THE PETROLEUM COMMITTEE.

IT is premature yet to say what decision will be precisely arrived at by this committee, two draft reports having, according to the *Times*, been submitted — one by the chairman (Mr. Jesse Collings) and the other by Mr. Ure. The impression is, however, that Mr. Collings's report will with slight amendment be accepted. The recommendations in this report are almost exactly in a line with those drawn up by THE LANCET Analytical and Sanitary Commission on Dangerous Paraffin Lamps, the report of which was published in THE LANCET of Jan 4th, 1896. It is stated that Mr. Collings proposes to deal exclusively with the structure of lamps, but that Mr. Ure insists upon the flash-point being raised. We hope to deal at length in an early issue with the final conclusions of the committee. In the meantime we may express our satisfaction that the views which we published on this important question over two years ago are in practical agreement with the findings of a Select Committee of the House of Commons which has been sitting for several years.

"ONLY A PAUPER."

THE question of the nursing arrangements at the workhouse infirmaries has frequently been brought before the public by means of inquests held upon the bodies of inmates, the evidence often showing the utterly inadequate character of the attendance. In many instances the patients have to wait upon one another or an infirm pauper alone is told to look after the ward. On June 10th Dr. Danford Thomas held an inquest concerning the death of a man, aged seventy-seven years, whose death took place at the Marylebone Infirmary Workhouse, Gray's Inn-road, on June 5th. The evidence showed that the deceased had been an inmate of the workhouse for some years. Owing to the reconstruction of the Marylebone Workhouse the guardians some three years ago rented the old Holborn Workhouse, Gray's-inn-road, as a temporary resort to which they sent some of their inmates, including the deceased. On June 4th the porter noticed that the deceased appeared to be weak and feeble and told him to go to the sick ward. He did so and died there the next morning. Another of the inmates, aged sixty-three years, stated that he was an inmate of the workhouse and was in charge of the sick ward night and day and slept there, and there was no nurse over him. He further stated that the medicine was given to the patients by the porter, who also attended to the door and to the inmates having their meals. The jury returned a verdict of "Death from natural causes" and added a "strong recommendation that a proper trained nurse should be appointed to attend to the sick." Similar cases are constantly occurring and the verdict is generally the same. We are of opinion that it is expressed in terms far too mild. The guardians are responsible for the lives of the paupers so far as suitable medical attendance and nursing can cure or relieve disease, but to leave a whole ward of patients in sole charge of a man, aged sixty-three years, who was, so far as the evidence showed, without any training, is a matter for the gravest censure. Guardians are oftentimes remiss in their care of sick paupers. Had such neglect been discovered in an ordinary hospital the authorities would rightly have been deemed to be incapable of managing an asylum for the sick, yet such gross negligence on the part of the guardians is simply met with "a strong recommendation for a trained nurse," rather than with a formal and severe censure. In some infirmaries, no doubt, the nursing is everything that can be desired, but in others it is the reverse.

LARGE NUMBER OF FOREIGN BODIES IN THE STOMACH: GASTROTOMY.

IN the *Journal of the American Medical Association*, March 5th, 1898, Dr. A. H. Meisenbach has published the case of a man, aged twenty-two years, terming himself "the human ostrich," who had for nine years followed the "profession" of swallowing glass, metal, &c. He suffered no discomfort until the end of that period when he complained of pain in the stomach. Whilst standing a mass of about the size of the hand could be felt in the umbilical and hypogastric regions which could be raised and which descended with an impulse. When recumbent as he turned from his back on either side the mass moved towards that side. A skiagram showed a shadow in the umbilical region. Gastrotomy was performed and 118 articles, besides about an ounce of broken glass, weighing in all 1 lb., were removed. The articles were: 27 staples, 15 screws (1 in. and 1½ in.), 52 nails (2 in. and 1½ in.), 21 cartridges, 2 pocket-knife blades, and 2 inches of brass chain. The patient recovered but an attack of pneumonia of the right base followed the operation. Dr. Meisenbach attributes this to the x rays, to which the patient had been exposed on several occasions for long periods. X rays dermatitis is now well known and deep-seated injury has also been claimed as an effect. Dr. Sorel, a French surgeon, has already asserted that pneumonia can be produced by the rays; other writers mention periostitis. The retention for such a long period of this extraordinary collection of foreign bodies in the stomach without injury and even without symptoms is remarkable.

DEATHS IN CHILD-BIRTH.

AT a meeting of the Royal Statistical Society held on June 21st at the Royal United Service Institution, Mr. T. A. Coghlan, the Government Statistician of New South Wales, read a paper on "Deaths in Child-birth" which was of considerable interest to the medical profession. He drew the data for his paper mainly from an analysis of the deaths and births registered in New South Wales during a period of four years (1893-96 inclusive), though some of his deductions were taken from only the last three years. During these three years there were 115,669 confinements in the colony and the births caused the deaths of the mothers in 813 instances. As difficulty is always experienced in obtaining full and accurate particulars in regard to the confinements of unmarried women the statistics furnished in the paper generally excluded the 9920 confinements of the

unmarried and noticed only the 105,749 confinements of married women. In his first table Mr. Coghlan dealt with the mortality in consecutive confinements up to the twenty-third confinement, of which there were two in the colony during the period under review, though the figures beyond the twelfth or thirteenth confinement were so attenuated as to be practically valueless. From the data thus collected a corrected statement of the probability of death during each confinement was reached. It was shown that the risk attending the first birth is greater than that at any subsequent confinement up to the ninth and that the increase in risk in subsequent confinements may be due to the increased age of the mother and not to a loss of vitality arising from the number of previous confinements. The statistics of first confinements at various ages were examined with the aid of a diagram and from them it appeared that the risk attendant upon a first birth is at a minimum at the ages of twenty-two and twenty-three years. After five years more this risk increases rather rapidly with age.

THE SMOKE NUISANCE.

THE London County Council has authorised its General Purposes Committee to prosecute through the police in cases of smoke nuisance in the County of London with regard to which the local authorities have failed to take action. This is as it should be, but the first case which has been heard since the decision has not given a result calculated to reassure those who are anxious for the purity of the London atmosphere. On June 22nd the Metropolitan Electric Supply Company was summoned at Bow-street for not complying with a magisterial order calling upon them to abate a nuisance caused by black smoke. The counsel for the defence argued that the company could not get smokeless coal and that to prevent smoke with the coal which they were obliged to use they would have to reconstruct their furnaces. Sir James Vaughan said that he was satisfied that the company had done all in their power to mitigate the nuisance and he marked the summons "No conviction." We cannot agree with this judgment. The Public Health Act says nothing about smokeless coal, but it does say that a court may dismiss a summons if it is satisfied that the fireplace or furnace is constructed in such a manner as to consume as far as practicable all smoke arising therefrom. The defendant company admitted that in this case they would have to reconstruct their furnaces, so apparently the furnaces were originally built on the supposition that smokeless coal could always be got—an utopian idea. It is no defence that because only smoky coal can be got a company may foul the atmosphere and bring about a nuisance, albeit a legal one.

THE "REPRESSION" OF TUBERCULOSIS.

A WELL attended meeting of prominent members of the profession took place by invitation at the house of Sir William Broadbent on Wednesday last. The meeting had been called to consider the advisability of inaugurating a movement to disseminate knowledge concerning tuberculosis and its prevention and also the provision of sanatoria for the open-air treatment of tuberculous lung disease. Sir William Broadbent was in the chair and he briefly stated the objects in view. He read a letter from the President of the Royal College of Physicians of London expressing approval of the project and suggesting lines of work. Dr. Corfield, Mr. Malcolm Morris, Mr. Shirley Murphy, Dr. Isambard Owen, Dr. J. Pollock, Dr. Ransome, Dr. H. Weber, and others spoke; and resolutions were passed (1) expressing the desirability of forming a public association for the purpose stated and (2) appointing a provisional committee to take the necessary steps to start such an association. We heartily sympathise with any action which may be taken to diminish the amount of tuberculous disease, and consider that if, as no doubt will be the case, the methods of effecting this are pursued with wisdom and discretion much good will be done. The facts, as stated by Dr. Ransome, that under existing sanitary legislation the death-rate from such disease has been reduced by two-thirds and, as Mr. Shirley Murphy pointed out, that vast improvements have taken place in London habitations during the past twenty years, go far to encourage the hope that yet greater benefits will accrue when the community realise fully the preventable nature of tuberculosis and the value of pure air and food.

COTTAGE BATHS.

THE Corporation of Manchester seem still unable to see the advantage, or it might be said the necessity, of providing facilities for cleanliness for the youngest, the most helpless, the poorest, and perhaps the dirtiest section of their fellow citizens, and still hold out against the oft-renewed appeal for cottage baths. On May 17th a joint deputation from the Manchester and Salford Sanitary Association and the Ladies' Health Society waited by appointment on the Baths Committee of the corporation. It was introduced by Professor Leech, chairman of the Sanitary Association, who said they wished to renew the appeal made a year ago to the committee that they should try the experiment of establishing cottage baths in districts where the influence of the Ladies' Health Society could be brought to bear in making them popular. Miss Beard, of the Ladies' Health Society, stated that in the district which she superintended there were 3000 houses, representing a population of 15,000, and in the whole of that area there was not a single bath. Mr. T. C. Horsfall earnestly appealed to the committee to help the deputation in the matter and spoke of the unclean condition of many of the children who visited the Art Museum. Dr. Sawers Scott also addressed the committee, but in vain. The chairman, in reply, said the experiment would mean the purchase of cottages which might be thrown on the committee's hands if it should prove a failure. But with a charming *naïveté* he assured the deputation that "if the matter were undertaken by private enterprise *and proved successful* the corporation would not be slow to take over the property and establish other cottage baths in the city." Municipal poverty of idea as to fulfilling the duty of promoting the welfare of those whose suffrages have placed the members of the Baths Committee where they are could not be more clearly exhibited. It is not creditable to the corporation that this crying want should be left so long unsupplied and not even one cottage bath be available for the poor woman who finds it almost impossible in her single room to keep her infant sweet and clean, and all because "the experiment might prove a failure."

WE understand that it is arranged that the committee appointed by the General Medical Council to confer with the delegates from the Midwives Bill Committee will do so to-day (Saturday, June 25th). The delegates include Mr. J. B. Balfour, M.P., three medical members of the Midwives Bill Committee, and three members of the Association for Promoting Compulsory Registration of Midwives. The committee appointed by the General Medical Council consists of the following members: Sir Richard Thorne, Dr. Glover, Dr. MacAlister, and Sir Christopher Nixon. The conference will take place at the premises of the General Medical Council.

THE next meeting of the Neurological Society of London will be held at the rooms of the Medical Society, 11,

Chandos-street, W., on Thursday, June 30th, at 8.30 P.M., when Dr. C. E. Beevor will open a discussion on "The Accurate Localisation of Intracranial Tumours." Dr. Byrom Bramwell, Dr. Michell Clarke, Dr. Ormerod, Dr. Newton Pitt, Dr. Sharkey, and Mr. Marcus Gunn will take part in the discussion.

THE annual meeting of the Brussels Medical Graduates' Association will take place at the Café Royal, Regent-street, W., on Tuesday, July 12th, at 6.30 P.M., and will be followed by the annual dinner at 7.30 P.M. Any Brussels medical graduate desiring to be present should communicate with the honorary secretary, Dr. Major Greenwood, 243, Hackney-road, London, N.E.

THE complimentary dinner to Dr. Playfair (postponed from June 8th) will be held at the Grand Hotel on Monday, July 4th, at 7.15 P.M. Lord Lister will preside. Applications for tickets should be made not later than Thursday, June 30th, to Dr. John Phillips, 68, Brook-street, W.

DR. BEATTIE CROZIER has received information that his pension from the Civil List has been increased from £50 per annum to £100 per annum, to assist him in completing the remaining volumes of the "History of Intellectual Development."

THE foundation-stone of the Nurses' Home of Queen Charlotte's Lying-In Hospital in the Marylebone-road will be laid by Viscountess Portman on the afternoon of Wednesday, July 6th.

THE Lord Mayor visited Stone, near Dartford, Kent, on Saturday last and laid a foundation-stone for a new church to be erected in connexion with the City of London Asylum.

DR. G. E. SHUTTLEWORTH has been elected a Foreign Member of the Moscow Society of Neurology and Mental Sciences.

THE MEDICAL SERVICE OF OUR ARMY.

IN the account of the annual dinner of the Indian Medical Service which we published last week, we intimated that we intended to refer again to the speech made by Surgeon-Major-General Jameson, C.B., Director-General of the Army Medical Department, when responding to the toast of "The Sister Services." The speech, interesting in itself, is particularly interesting regarded as an expression of opinion of the value of the service and of the professional skill and bravery of the medical officers. We are therefore glad to be able to publish it at length, especially as by so doing we may make better known facts which in the opinion of the Director-General have not received adequate notice in the medical press, but which, slightly to transpose Surgeon-Major-General Jameson's words, show, "by the results of military expeditions in tropical and unhealthy climates, that the medical service of our army, including, of course, the Indian Army, is the best in the world." The following is the text of the speech:—

Sir JOSEPH FAYRER and GENTLEMEN,—"A prophet is not without honour save in his own country" is an expression which may well be applied to the department which I represent. At home the Army Medical Service is looked upon as a very ordinary affair, often subjected to adverse criticism regardless of a cause; but what do they say of us abroad, in France and Germany, for example? They say that the medical service of our army, including, of course, the Indian Army, is the best in the world, as proved by the results of military expeditions in tropical and unhealthy climates. This is a subject not much alluded to in the general press or, indeed, in the medical press, probably in ignorance of the facts. What are the facts?

Since the year 1860 we have had eighteen military expeditions the medical statistics of which have been separately recorded, and by a strange coincidence the French have had exactly the same number under circumstances somewhat similar—that is to say, in tropical or semi-tropical climates. Comparing the mortality of these eighteen French and eighteen English expeditions it will be found that the French loss from disease alone in relation to strength has been a little more than four times greater than the English. That does not represent all the difference, for we have nothing to compare with the appalling disaster of Madagascar, where the loss from disease was 30 per cent. of the entire strength. Compare that with our last expedition in Ashanti (a climate just as deadly as Madagascar), where the mortality was only 4 per cent. And yet it is reported that the sanitary and medical equipments in Madagascar were exceedingly good. What, then, was the cause of the disaster? Just this. The general officer commanding saw only one enemy—*man*—and he took no account of a far greater enemy—*disease*—and accordingly the medical and sanitary equipments, in spite of medical protest, were left at the base. The result of that was that 7 men were killed in action and 4189 men died from disease.

I shall make another contrast which at the present time may possess a particular interest. It is between the Spanish war in Cuba and our late war on the north-western frontier of India. From the end of 1895 until March, 1897 (a period of 15 months), Spain had an army in Cuba numbering 200,000 men. During that short time there died from yellow fever alone 13,322, and from other diseases, irrespective of killed and wounded, 40,125, while 20,000, or 10 per cent. of the force, were invalided to Spain. It is calculated that at the present moment only 70,000 out of the 200,000 men are now alive. In the frontier war in India the whole loss from battle and disease was only between 4 and 5 per cent. and the greatest number in hospital at the front, on the line of communications, and at the base in any one day was 11½ per cent.

When the medical history of the last war in India is written it will prove interesting reading. There were many difficulties overcome and hardships endured with the usual element of danger. A good instance of this was when General Woodhouse was wounded early in the war. A bullet struck him in the thigh, passed down below the knee, broke into pieces, and lodged. The Roentgen ray apparatus revealed the exact conditions and it was determined to extract the pieces. In the middle of the operation artificial light being used the Afridis crawled up and suddenly blazed into the tent, sending 13 shots through the canvas. Now that might have been a very disturbing circumstance and apt to interfere with the perfect application of the aseptic form of surgery. And what happened? Nothing. The operation went on and was successfully completed as if there was no Afridi within 100 miles. As usual we had many examples of great personal bravery and devotion to duty in the midst of danger. Surgeon-Captain Beyts of my service is an example. He arrested hæmorrhage under a hot fire, and Sir Wm. Lockhart speaking of the incident said that no one ever better merited the reward of the Victoria Cross than he. He got nothing; but that is another story. Another medical officer greatly distinguished himself, Surgeon-Captain Hugo of your service. The incident is so graphically described by Mr. Churchill in his book on the Malakand Field Force that I shall ask this sympathetic audience for permission to read an extract.

"Lieutenant Ford was dangerously wounded in the shoulder. The bullet cut the artery and he was bleeding to death when Surgeon-Lieutenant V. Hugo came to his aid. The fire was too hot to permit of lights being used. There was no cover of any sort. It was at the bottom of the cup. Nevertheless the surgeon struck a match at the peril of his life and examined the wound. The match went out amid a splutter of bullets which kicked up the dust all around, but by its uncertain light he saw the nature of the injury. The officer had already fainted from loss of blood. The doctor seized the artery and as no other ligature was forthcoming he remained under fire for three hours holding a man's life between his finger and thumb. When at length it seemed that the enemy had broken into the camp he picked up the still unconscious officer in his arms and without relaxing his hold bore him to a place of safety. His arm was for many hours paralysed from cramp with the effects of the exertion

of compressing the artery. I think there are few, whatever may be their views or interests, who will not applaud this splendid act of devotion. The profession of medicine and surgery must always rank as the most noble that men can adopt. The spectacle of a doctor in action among soldiers in equal danger and with equal courage saving life where all others are taking it, allaying pain where all others are causing it, is one which must always seem glorious, whether to God or man. It is impossible to imagine any situation from which a human being might better leave this world and embark on the hazards of the unknown."

The retirement down the Bara Valley was full of dangerous incidents. It was the rear of the column that was always the part the most fiercely attacked. It was there that the wounded and the medical officers were placed, and in repelling the numerous rushes made by a fierce enemy every one had to fight for his own hand. Under such circumstances it would perhaps be difficult to differentiate between the combatants and the so-called non-combatants. If medical officers are non-combatants one might well exclaim with the Frenchman: "Que diable allait-il faire dans cette galère." The great importance of an efficient army medical service is well shown in a report lately received from an American surgeon who, writing of the War of Secession in 1862-66, said that the mortality from disease alone had been 250,000, and he expressed the opinion that had their medical service been as complete in the first three years of the war as it was in the last at least one-third of these lives would have been saved.

Gentlemen, these are facts which tend to show that even in war, paradoxical as it may appear, the preservation of life may be as important as its destruction.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

ON Thursday, July 7th, the election of members of Council will take place. Every year at least three vacancies occur, as three members retire by rotation, and it not unfrequently happens that by death more vacancies arise, but this year there are only the three regular vacancies.

The following list of the 24 members of Council gives the date at which each member retires:—

Retire in 1905: Mr. H. G. Howse, Guy's Hospital (first elected 1889), Junior Vice-President; Mr. Edmund Owen, St. Mary's Hospital; and Mr. Rickman J. Godlee, University College Hospital.

Retire in 1904: Mr. Bryant, Guy's Hospital (first elected 1880); Mr. Pickering Pick, St. George's Hospital (first elected 1888); and Mr. Davies-Colley, Guy's Hospital.

Retire in 1903: Mr. Willett, St. Bartholomew's Hospital (first elected 1887), Senior Vice-President; Mr. Butlin, St. Bartholomew's Hospital; and Mr. Treves, London Hospital.

Retire in 1902: Mr. Reginald Harrison (first elected 1886); Mr. Howard Marsh, St. Bartholomew's Hospital (first elected 1892); and Mr. J. Hardie, Royal Infirmary, Manchester.

Retire in 1901: Mr. Macnamara, Westminster Hospital; Mr. Mayo Robson, Leeds General Infirmary; and Mr. Watson Cheyne, King's College Hospital.

Retire in 1900: Sir Thomas Smith, Bart., St. Bartholomew's Hospital; Mr. J. Tweedy, University College Hospital; and Mr. Alfred Cooper.

Retire in 1899: Sir William MacCormac, Bart., St. Thomas's Hospital (first elected 1883), President; Mr. T. R. Jessop, Leeds General Infirmary; and Dr. Ward Cousins, Royal Portsmouth Hospital.

Retire in 1898: Mr. J. Langton, St. Bartholomew's Hospital; Mr. Mitchell Banks, Liverpool Royal Infirmary; and Mr. Henry Morris, Middlesex Hospital.

An analysis of these names shows that at present St. Bartholomew's Hospital has 5 representatives, Guy's Hospital has 3 representatives, University College Hospital has 2 representatives, London Hospital has 1 representative, St. Mary's Hospital has 1 representative, St. George's Hospital has 1 representative, Westminster Hospital has 1 representative, King's College Hospital has 1 representative, Middlesex Hospital has 1 representative, and St. Thomas's Hospital has 1 representative; making a total of 17. Attached to the London medical schools are 17 representatives, to the special London hospitals 2, and to the provincial hospitals 5, of which number Leeds furnishes 2, Manchester 1, Liverpool 1, and Portsmouth 1.

The approaching election will be perhaps less exciting than have been many of the recent elections. As we have pointed out above, no vacancies on the Council having occurred through death there are only 3 places to be filled at the coming election. One of the retiring members of Council, Mr. Mitchell Banks, does not intend to offer himself for re-election, but the 2 others, Mr. Langton and Mr. Henry Morris, are candidates. 3 other Fellows have come forward, Mr. Clement Lucas, of Guy's Hospital, Mr. Bennett May of Birmingham, and Mr. Richardson Cross of Clifton. We think there can be no reasonable doubt that Mr. Langton and Mr. Morris will be re-elected. They are two very distinguished surgeons, each attached to an important London medical school, and it would be a distinct loss to the Council should either not be reappointed. Thus it happens that there is practically only 1 vacancy on the Council and for this there are 3 candidates. In the present Council there are 5 provincial Fellows and 19 London Fellows, and as Mr. Mitchell Banks does not seek re-election it follows that unless a provincial Fellow is appointed there will be only 4 representatives from the provinces. It is difficult to decide exactly how many provincial representatives there should be, but it may fairly be said that 6 and 4 represent a reasonable maximum and minimum. Of the 3 candidates for this single post Mr. Clement Lucas is the only London Fellow and should the voters think that 4 provincial representatives are sufficient they could not do wrong by voting for Mr. Lucas. He has already been a candidate for a seat on the Council and at the last election he received only 34 fewer votes than the lowest successful candidate. He is connected with a large medical school, is well in touch with current medical education, and would supply to the Council a further instalment of the reforming element which is so much wanted on that body. If, on the other hand, it is felt that a provincial Fellow should replace the provincial representative who has retired, then a choice will have to be made between Mr. Bennett May and Mr. Richardson Cross. Mr. May is a well-known surgeon at Birmingham and the fact that he is unanimously supported by all the Fellows of the College in Birmingham tells greatly in his favour. He was a candidate at the last election and was only 23 votes behind the last successful candidate. Mr. Richardson Cross is a distinguished ophthalmologist and is connected with the Bristol Royal Infirmary. He would prove a decided acquisition to the Council.

THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS, PARIS.

AUG. 2ND TO AUG. 9TH, 1900.

THE next meeting of the International Medical Congress will take place in Paris during the year of the great exhibition in 1900—from Aug. 2nd to 9th. Professor Lannelongue, the well-known surgeon and a member of the Senate, has been chosen President and Dr. Chauffard (21, Rue St. Guillaume) has been appointed secretary-general. The committee of organisation has already been at work for some months and considerable progress in the arrangements, which will be on a large scale, has been made. The President of the Republic has consented to open the Congress in person, and foreign countries are being invited to join in the work.

Sir William Mac Cormac has received an official letter from the President and Secretary-General asking him to organise an English national committee if possible before Aug. 1st. They hope that England will take a large interest in the Congress which promises to be a great success. No effort will be spared by our French *confrères* to make it one and they are all the more stimulated by the great *éclat* which attended the last meeting of the Congress in Moscow. It is interesting to recall that the first International Medical Congress took place in Paris under the Presidency of Professor Bouillaud in 1867.

A meeting of those interested in the matter will, we understand, be held at some convenient time and place, to be announced shortly, in order to carry out the wishes of our French colleagues.

THE BRITISH PHARMACOPŒIA.

VI.[1]

THE ADDITIONS—(*continued*).

THREE new tinctures only are added to the British Pharmacopœia. These are the *Tinctura Ergotæ Ammoniata*, *Tinctura Quillaiæ*, and the *Tinctura Pruni Virginianæ*. To the last two we have already referred. The tincture of ergot of the old British Pharmacopœia is now omitted; it was of the same strength as the new preparation (1 in 4) which now contains 2 oz. solution of ammonia in each pint and which has a dose of from ½ to 1 drachm—i.e., double the dose given in the old Pharmacopœia for a tincture of the same strength. The addition of ammonia to the menstruum used in exhausting ergot has been found to give a much more stable and uniform result; whether this is caused by its power of dissolving out all the active principles of the drug or by its influence in precipitating some of the antagonistic complex alkaloidal bodies always present, we know not. The admission of the new tincture is a decided advantage.

Trochiscus Acidi Carbolici.—Simple as it may seem we believe that this is one of the most important and valuable additions to the list of new Galenical preparations in the British Pharmacopœia, 1898. Carbolic acid has a specific action upon the throat and palate muscles which can be obtained by no other drug; it paralyses them slightly, destroying the sensibility of the nerves in inflamed conditions and it is, moreover, a powerful antiseptic. These properties rendered a lozenge of it most desirable and it was always remarked as "surpassing strange" that the British Pharmacopœia did not contain one whilst lozenges of benzoic acid, bismuth, opium, iron, soda, &c., retained a place in the national pharmacopœia. The new trochiscus contains 1 gr. of phenol in each lozenge and it will prove of great value in the treatment of various forms of sore-throat and in suppurative and painful conditions of the gums and tongue. It has not been our desire to criticise the work of the revisers in any fault-finding spirit, upon the contrary we have rejoiced in their success at the very great improvement which they have effected in this, the first really praiseworthy attempt at reform, but we cannot congratulate them upon their action in introducing the following list of lozenges—i.e., *Trochiscus Eucalypti Gummi*, *Trochiscus Guaiaci Resinæ*, *Trochiscus Krameriæ*, and *Trochiscus Krameriæ et Cocainæ*. There are now no less than seventeen of these antiquated specimens of confectionery in the new volume. Fortunately the revisers have simplified the direction for their *manufacture*—we use the word advisedly, as they will never be prepared by the ordinary pharmaceutical chemist.

To *Unguentum Aquæ Rosæ* we have already referred. It is a substitute for the popular "cold cream" and is an elegant emollient if it be found to keep without resolving itself into its component parts, as it sometimes does.

Unguentum Capsici will be welcomed especially by all who have a leaning towards hydropathy, as this is now the official representative of the popular "chili paste" so much used at most of the hydropathic establishments. The original formula we believe recommended the use of the oleo-resin of capsicum (United States Pharmacopœia), but the new ointment seems to meet all requirements; it is of the strength of about 1 in 5 and will prove a valuable rubefacient.

Unguentum Cocainæ is a 5 per cent. ointment of the alkaloid dissolved in oleic acid and lard. It was required, and is a valuable addition to high-class pharmacy as well as an agent certain to be prized by the physician or surgeon who is called upon to treat painful affections especially in the neighbourhood of the junction of skin and mucous membranes as about the anus and vulva. Its anæsthetic action will be much more uniform and prolonged than that of a watery solution of the drug.

Unguentum Hydrargyri Oleatis has already been referred to under Hydrargyri Oleas. *Unguentum Hydrargyri Oxidi Flavi* is introduced as a substitute or representative of the celebrated Pagenstecher's ointment. The revisers have shown their sound judgment in making the new ointment of the strength of about only 10 gr. to 1 oz., though the original ointment was made by rubbing up 30 gr. with 1 oz. vaseline. This preparation may be substituted for the popular "Golden" ointment made with the red precipitate of mercury. It is very efficacious in most chronic inflammatory conditions of the eyelids and may be used with great advantage in many forms of conjunctivitis. We would, however, recommend the practitioner when prescribing this or any other similar eye ointment to slightly vary the official strength so that the dispensing chemist will feel himself compelled to make up the preparation afresh and not fill it out of a pot which contains the ointment made up in bulk. We give this advice because the preparation of eye ointments especially requires laborious trituration and can only (when not made by complicated machinery) be well made in small quantities at a time. It is a good practice for the prescriber to add the words (underlined) *tere bene* in the subscription of his recipe. If the trituration be not most carefully performed the particles of the yellow oxide will act like an irritant when applied to the conjunctiva. The British Pharmacopœia directions for making this ointment, which is seldom used except for ophthalmic purposes, are summed up in the word "mix."

Unguentum Paraffini is simply a mixture of three parts of hard paraffin with seven parts of vaseline and is introduced as a basis for other ointments. The British Pharmacopœia directs that when paraffin ointment is used as a basis of white ointments it should be prepared with the white variety of soft paraffin or vaseline and when used in coloured ointments it should be prepared with the yellow variety. It also makes a noteworthy departure in the directions following the process by stating that "the proportions of hard and soft paraffins in paraffin ointment may be modified to meet the exigencies of climate and prevailing temperature." This is very nice, but we expect that no two chemists will agree about these exigencies and that patients will be furnished with a little variety when travelling about or when compelled to get their recipes filled up by a new chemist, but no harm can otherwise come of the little latitude given to the dispenser.

It remains for us to notice some of the new Galenical preparations of the British Pharmacopœia belonging to drugs which were already official.

Extractum Belladonnæ Liquidum.—Though this preparation is chiefly of pharmaceutical interest it cannot fail to be of importance to the practitioner of medicine, since its introduction marks the first step in what must prove to be a sweeping change in the vegetable materia medica. This change was first suggested by Barclay a few years ago and there can be no doubt about the wisdom of the revisers in acting upon it. The old green extract of belladonna was, and, we regret to say, still is, an official preparation of very variable composition and strength owing to the insuperable difficulties in effecting its standardisation. There are now in addition to the folia, radix, and succus eight preparations of belladonna in the new British Pharmacopœia. All these with the single exception of this variable old green extract are now standardised preparations made to contain definite and unvarying percentages of the alkaloids of belladonna root. This uniformity and accuracy is obtained by the introduction of the preparation now under notice; from it all the other preparations of belladonna are made. It is standardised to contain 0·75 per cent. alkaloids and is prepared by percolating belladonna root with alcohol and finally finishing the process when the liquid is made to contain ½ gr. of alkaloids in every 110 minims. From it the following Galenical preparations are made—i.e., extractum belladonnæ alcoholicum (1 per cent. alkaloids); emplastrum belladonnæ (0·5 per cent. alkaloids); linimentum belladonnæ (0·38 per cent. alkaloids); suppositoria belladonnæ (1/60 gr. alkaloids in each); tinctura belladonnæ (from 0·048 to 0·052 per cent. alkaloids); and unguentum belladonnæ (0·6 per cent. alkaloids). It will thus be seen that this new liquid extract is one of the most important preparations in the Pharmacopœia and should receive the attention of every practitioner prescribing belladonna. We would, however, caution about one fallacy in prescribing belladonna which is likely to arise from an arithmetical study of these preparations. The practitioner must not compute the therapeutic action of these Galenicals

[1] Articles I., II., III., IV., and V. were published in THE LANCET of April 16th and 23rd, May 7th and 28th, and June 18th, 1898, respectively.

in units of atropine. It is essential to have preparations of definite alkaloidal strengths, but it must be remembered that their doses must not be calculated upon the basis of the atropine dosage. Binz states that recent investigation shows that good belladonna root does not contain any atropine but merely *hyoscyamine*, which by the action of alkalies or prolonged heating is converted into atropine. It is thus of vital importance that all the preparations of the root of belladonna be prepared from this liquid extract. It remains for the practical therapeutist at the bedside to determine the exact dosage and action of the belladonna Galenicals by patient and numerous observations, commencing with the doses of the Pharmacopœia.

Extractum Ipecacuanhæ Liquidum.—This, like the previous liquid, is a valuable addition, and though it is chiefly of pharmaceutical interest it should receive the attention of the prescriber because of its influence upon the dosage. The old vinum ipecacuanhæ was made by first preparing a *dry* extract of the root and then macerating it in sherry; the result was not satisfactory. The prolonged heating necessitated by the evaporation to complete dryness spoiled to a certain extent the alkaloidal richness of the wine, and we believe that the new wine will be more active and more uniform though the doses remain nearly as before. It is made by mixing 1 oz. of liquid extract of ipecacuanha with 19 oz. of sherry. The liquid extract is standardised to contain from 2 gr. to 2¼ gr. *alkaloid* in 110 minims. Cephaeline is also contained in ipecacuanha and it is a stronger alkaloid than emetine. Probably we may have these alkaloids separated, as suggested by Wilde, and the emetine alone retained for Galenical preparations of ipecacuanha in some future edition of the British Pharmacopœia.

Extractum Jaborandi Liquidum.—This preparation does not appear to be of any interest to the practitioner and there does not seem to be any reason for its introduction since we have a powerful tincture 1 in 5. Its presence in almost identical form in the American Pharmacopœia probably suggested to the revisers that it should be included in the British Pharmacopœia.

Extractum Nucis Vomicæ Liquidum.—This liquid extract is introduced for the same reasons as have caused the introduction of the liquid extract of ipecacuanha. Formerly, in making the tincture of nux vomica the semi-solid extract after being standardised was dissolved in alcohol and water, but now the introduction of this liquid does away to a certain extent with the danger of deteriorating its virtues by prolonged evaporation as the standardised liquid extract is simply dissolved in alcohol and water. An important change is thus introduced into the tincture—i.e., from being standardised to contain 1 gr. *total alkaloids* in 1 oz. it is now made to represent ¼ gr. *strychnine* in 110 minims, and the dose is slightly reduced—i.e., from 5 to 15 minims. This tincture must be altered in the next revision. It gives a precipitate with water which is most undesirable in a liquid containing strychnine when dispensed in prescriptions; moreover, there is no necessity for such precipitation. We sincerely hope that few of the new Galenical preparations will be found open to objections like this. Every new compound should be made and experimented with for long periods before becoming officially honoured.

Extractum Strophanthi.—As already stated in a former article this is a valuable addition. Its composition is, however, a debatable one. The extract is made in the ordinary way and then milk sugar is added so that every ounce of the strophanthus seeds is to make 2 oz. of the extract. This makes the new extract a dry powder or *abstract*. These abstracts were numerous in a comparatively recent edition of the Pharmacopœia of the United States, but they have since been rejected, as altogether unsatisfactory, from the American Pharmacopœia, a fact no doubt well known to the British Pharmacopœia revisers, who have, it is to be hoped, tested the keeping qualities of this extract and those of physostigma.

NEWPORT (MON.).—It is stated that the total expenditure up to the present on the Wentwood Waterworks undertaking for the Newport Corporation amounts to £118,740. The works are yet very far from completion.—The Parliamentary Committee of Newport Borough Council recommend the purchase for £5350 of a site near Caerleon which consists of 53 acres, for the new Borough Lunatic Asylum.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE twenty-sixth sitting of the Royal Commissioners was held on June 20th at the Guildhall, Westminster. The Commissioners present were the Chairman (Lord Llandaff), the Right Hon. J. W. Mellor, Mr. De Bock Porter, and Major-General Scott.

The first part of the sitting was occupied in hearing the evidence of Mr. William Chambers Leete, Vestry clerk to the parish of Kensington, and of Mr. John Collins, a member of the Whitechapel District Board of Works. The examination of these witnesses was concluded. After the adjournment for luncheon Mr. Littler, Q.C., Chairman of the Middlesex County Council, whose evidence was taken at a previous sitting, was cross-examined by Mr. Balfour Browne on behalf of the London County Council.

Mr. LEETE, in answer to the Chairman, said that the parish of St. Mary Abbotts, Kensington, comprises an area of 2245 acres, contains 22,000 inhabited houses, a population of 170,000, and has a rateable value of £2,107,894. The Kensington vestry had during recent years considered the question of the water-supply of the metropolis in connexion with the various Bills which had been promoted by the London County Council and had on more than one occasion expressed their disapproval of the purchase of the water companies' undertakings by the London County Council. The vestry favoured an alternative policy—namely, the promotion of legislation for the creation of a central body representing the ratepayers of the whole of "Water London," and that this body should be vested on behalf of the water consumers with powers of control and of supervision over the undertakings of the water companies. On Jan. 16th, 1895, the vestry passed the following resolution:—

> That it is inexpedient, in the opinion of this vestry, that any further steps should be taken for promoting the passage of the Bills through Parliament having for their object the purchase of the water companies' properties by the Council and thus incurring expenditure which may ultimately prove useless in addition to that already incurred, but the vestry fully recognises the absolute necessity of there being some form of control and supervision by a representative body over the sources of supply from which London water is now and may in future have to be derived, and is prepared to give its support to any well-considered public measure having that object in view.

On May 8th, 1895, the following resolution was passed:—

> That in the opinion of the vestry it is desirable that legislation should be promoted which shall have the effect of bringing the undertakings of the water companies which now supply the metropolis under the supervision and inspection, with powers of regulation, of a central body representing the ratepayers, by which in return for the rights conferred on the companies and without hampering their operations within the area of supply of each, the systems of distribution may be rendered thoroughly efficient in all weathers and universally intercommunicating.

The witness pointed out that the object of the resolutions was to obtain for representatives of the ratepayers such control and supervision for the whole of the water-supply of the metropolis as would without the necessity of purchasing the undertakings give to the consumers large statutory powers and a directing influence in regard to all schemes for the extension of the supply in future as well as for the due regulation of the system and manner of distribution, such as Parliament has imposed on similar private undertakings in times more recent than those at which the original Acts were passed in favour of the existing metropolitan water companies. With regard to the powers of levying water rents at present possessed by the companies the witness said that the vestry felt that there were anomalies which should be dealt with by Parliament. The attention of the vestry had been directed to a question which had arisen between the owner of some small stables and one of the water companies. The complaint arose out of the statutory powers possessed by the Grand Junction Waterworks Company. It appeared that the stables and two rooms over them were assessed at £8 a year: the amount paid for water both for stables and domestic use had been 19*s.* a year under an agreement made with the company by the occupant. The company sought to increase the charge to £2 14*s* a year. Objection to this was taken by the owner and the company threatened under their powers to require that the water should be supplied to this particular stable and to two small stables adjoining by meter. The company had statutory power to charge for 100,000 gallons per annum as the minimum quantity at the rate of 9*d.* per 1000

gallons, and at this rate the charge would have been even higher than that which the company had proposed. The points raised were whether it was reasonable that the water company should have power (*a*) to charge for domestic supply in the case of a stable when the water used for the horses and vehicles forms a distinct item in the demand upon the full rateable value of the hereditament, and (*b*) failing agreement as between the company and the ratepayer to require that the supply shall be by meter, looking to the power of the company to charge for 100,000 gallons per annum as the minimum quantity at 9*d*. per 1000 gallons. The vestry considered the statements submitted to them and came to the conclusion that the Metropolis Water Act of 1897 would not enable them to obtain any relief in this case. It was, however, thought that the facts did betray an anomaly as regards the charges which the Grand Junction Company were empowered to levy under their Waterworks Act of 1852 (15 & 16 Vict. c. 157), and they were of opinion that, if exercised to the full, the provisions of this Act would undoubtedly be a serious matter for many of the ratepayers within the area of supply of this company. The vestry had therefore communicated with the Secretary of State for the Home Department calling attention to this anomaly and urging the Government to consider the expediency of further legislation dealing with this and other charges which the water companies had power to levy. A statement of this case was sent to other local authorities in order to obtain their opinion with regard to the matter, and the answers received showed that these authorities agreed with the Kensington vestry in advising legislation on the subject. With regard to the power at present possessed by the water companies to cut off the supply from occupied houses the vestry as the sanitary authority were strongly of opinion that this power should no longer exist. They felt that it was not right that the companies should merely as a coercive measure for securing payment of the water rent be allowed to create what might be a dangerous nuisance. The vestry wished to call the attention of the Commissioners to the fact that the first report of the Royal Commission appointed in 1884 to inquire into the housing of the working classes contained a recommendation to the effect that the water companies should be prevented from cutting off the water supply from an inhabited house.

Mr. PEMBER, on behalf of the water companies, and Mr. CRIPPS, the Parliamentary agent of the London County Council, on behalf of that body, cross-examined the witness. The cross-examination referred chiefly to the question of the equalisation of water-rents, and the witness pointed out that although the amount levied on the rateable value was less in the Kensington district than in some other parts of London yet the amount paid for water per gallon was probably more. The water-rents were levied on the rateable value, and the witness gave a striking example of what had occurred in his own case. When he moved from Highbury to Kensington he took a house of about the same size and used about the same amount of water, but he had to pay about 50 per cent. more for it because the rateable value of the new house at Kensington was higher than that of the one he left at Highbury. The present charges must be admitted to be anomalous, but the anomaly would certainly not be done away with simply by basing the water rents on the rateable value of houses throughout London, and this the witness's own case conclusively proved.

Mr. JOHN COLLINS, in answer to the CHAIRMAN, said that he was a member of the board of works of the Whitechapel district. He was by trade a basket-maker and his wife carried on a laundry business. Towards the end of the year 1895 he suffered from a short supply of water and was subjected to much inconvenience. In the month of July, 1896, the supply of water was again deficient and he and his neighbours were greatly inconvenienced. He first referred to the turncock of the East London Water Company which supplied the district in which he lived. He was told that the water could only be supplied in that neighbourhood for two hours a day. The witness then went to the office of the company and tendered the amount of his water rent up to Christmas, 1896, because the regulations of the company were that the money should be paid in advance. The clerk after some demur accepted the money and gave him a receipt. The witness then asked to see the manager and was taken to an inner office to make his representation. He produced his receipt for water-rate, and said that he required to have a proper supply of water, that he had paid for it, that his business as a laundryman was suffering from his not being able to obtain a supply, and that, as a matter of fact, his business was at a standstill for want of water. The evidence of the witness was taken down at the office, and he was promised that the matter should be attended to. On the following day water was supplied for about two hours only. The witness was inconvenienced in his business, and on the following day therefore he went to the Worship-street police-court and made an application to Mr. Cluer for the purpose of obtaining a summons. The witness's case was that the company, although refusing to supply him as an ordinary customer, yet still supplied other customers who took water by meter. Mr. Cluer advised the witness that his remedy was by a civil action against the company. The witness, however, felt that his means would not allow him to go to the expense of a civil suit. A few days after this event the East London Waterworks Company distributed a notice to say that the water-supply would be continued for six hours during the day. The conditions of that notice were not complied with; a supply of about two hours twice a day was given and that supply was not sufficient for the business purposes of the witness.

In answer to Mr. DE BOCK PORTER the witness said that some people in the district had for a time refused to pay their water rents to the company. The company had made no abatement in their charges in consequence of the inadequacy of the supply which they had given. Water in Whitechapel was so scarce that the witness had known people give ½*d*. or 1*d*. a pail for it. At the same time supplies were given by meter to those customers who took it by measure. On July 30th, 1896, a special meeting of the Whitechapel District Board of Works was held. At that meeting the following resolution was passed:—

> That this board feel strongly the serious crisis through which this district is passing owing to the renewed breakdown of the East London Water Company to fulfil its legal and moral obligations to the inhabitants, that pressing representation be made to the Government and the London County Council forthwith, urging immediate action to secure a competitive supply or to take over the whole supply of London by a body directly representative of the ratepayers.

A deputation was appointed by the board to wait on the East London Water Company and urge on them the necessity of increasing the domestic supply. The deputation was received on Aug. 7th, 1896, and explanations were given by the secretary of the company, who promised that more standpipes should be put up in the district and that the hours of supply should be extended as much as possible. Shortly afterwards a notice was issued by the East London Water Company that storage cisterns must be fixed to all supplies as required by the "company's Acts of Parliament." The witness said that the cisterns which were formerly in use had been removed in consequence of the sanitary requirements of the district and that all the houses were upon the constant service system. The notice issued by the company that cisterns should be supplied throughout the district would have entailed an enormous expense and was, in fact, practically impossible. The witness visited the premises of many people who, like himself, complained of the inadequacy of the water-supply, and he had satisfied himself of the justice of the complaints which had been made both by inspecting the houses and by hearing the evidence of the inhabitants who complained. The scarcity of water continued for some little time during the autumn of 1896 and the supply given came in some instances as early as six o'clock in the morning, and the water thus supplied could not under ordinary circumstances be utilised. The witness had suffered much from the want of water and had at the wish of his constituents taken a prominent part in inquiring about the details of the water famine. The witness, therefore, was well known to the East London Water Company, and they had since shown considerable anxiety that no possible waste could take place on his premises, which they had constantly inspected since the occurrence of the events which he had related.

In answer to the CHAIRMAN the witness said that he did not know whether the Whitechapel District Board of Works had communicated with the London County Council with regard to the water famine, but they had not received any help from that body.

The CHAIRMAN pointed out that as he read the Act of 1871 it was in the power of the Whitechapel District Board of Works to prosecute the company and he could not understand why they had not done so.

In answer to Major-General SCOTT the witness said that

he was not aware of the provisions of the Metropolitan Water Act of 1897 and the witness was glad to have his attention called to it. He said that it had not been brought to the attention of his board.

In answer to Mr. PEMBER the witness stated that the notice with regard to the shortness of the supply was not issued by the company until some days after the supply had failed.

Mr. LITTLER, Q.C., said that since he had given his evidence he had received a letter from the Willesden Urban District Council stating that that body did not agree with the views he had expressed, but that they were in favour of the water companies being vested in one central authority or trust.

Mr. BALFOUR BROWNE, Q.C., on behalf of the London County Council, asked Mr. Littler whether the views he had expressed as chairman of the Middlesex County Council agreed with the views which he intended to lay before the Commissioners on behalf of the Kent Water Company which he represented as counsel.

In reply the witness said that as counsel for the Kent Company he should express the views of his clients, for which they were responsible. In his character as chairman of the Middlesex County Council and as a private individual he was not in favour of a water trust, he was not in favour of purchase, and he did not wish to answer questions about control. He did not agree with the form of control which had been suggested by Sir John Lubbock. He had no method of control to suggest. An honourable and gallant member of the Commission knew much more about the question than he did. He was in favour of using the water of the Thames so long as that could be done without injuring the navigation of the river. He thought that a sufficient supply of water by right belonged to the county of Middlesex, which was, in his opinion, entitled to the "first drink" of the water before it was used for the supply of the counties below. The witness objected to any new wells being sunk in Middlesex for the supply of other districts and contended that the water from such wells should belong to that county. He was in favour of the present statutory control of the dividends of the companies. The witness was of opinion that if purchase did not take place and it ever became necessary for the companies to spend money in obtaining water from a new source they would undoubtedly spend it rather than lose the valuable privileges which they possessed. He did not, however, think it would be necessary to go to a new source.

In answer to Lord ROBERT CECIL, who appeared for the Hertfordshire County Council, the witness said that in his opinion if the outside authorities were supplied with water in bulk by the London County Council the outlying districts would undoubtedly suffer first in the case of scarcity of water.

The next sitting will be held on Monday, June 27th.

THE REBUILDING OF UNIVERSITY COLLEGE HOSPITAL.

IT will be within the recollection of our readers that last year Sir J. Blundell Maple made a noble gift of £100,000 to University College Hospital for the purpose of re-building the hospital. The property at the back of the existing hospital was immediately acquired at a cost of £30,000 and a site being thus provided it has been decided to make a start with the rebuilding.

On Tuesday, June 21st, the foundation-stone was laid in the presence of a large company by H.R.H. the Prince of Wales. Among those present were the following members of the Reception Committee:—The Duke of Bedford (President of the hospital), Lord Reay, G.C.S.I., LL.D. (President of University College), Lord Monkswell (treasurer of the hospital), Mr. Henry Lucas (chairman of the hospital committee), Sir J. Blundell Maple, Bart., M.P., the Bishop of London, Mr. J. F. Rotton, LL.B., Q.C., Mr. A. Prevost, Sir George Young, Bart., Captain H. M. Jessel, M.P., Dr. C. J. Hare, Dr. H. Charlton Bastian, F.R.S., Sir John Williams, Bart., M.D., Sir Henry Thompson, F.R.C.S., Mr. S. J. Hutchinson, Mr. Rickman J. Godlee (dean of the medical faculty of University College), Dr. Sydney Ringer, F.R.S. (senior physician to the hospital), Mr. Christopher Heath (senior surgeon to the hospital), Dr. G. Vivian Poore, and Mr. Newton H. Nixon (secretary to the hospital).

Among the general public might have been seen the Duchess of Bedford, Lady Reay, Lady Maple, Mrs. Henry Lucas, Sir G. and Lady Faudel-Phillips, Sir Douglas and Lady Galton, Sir Samuel Montagu, Bart., M.P., and Lady Montagu, Sir Savile and Lady Crossley, Lady Jessel, Lady Russell Reynolds, Sir James Paget, K.C.S.I., and Lady Paget, Lord Lister, P.R.S., Sir Wm. Mac Cormac, P.R.C.S., Sir Henry Burdett, K.C.B., Professor W. Corfield, M.D., Dr. W. J. Collins, L.C.C., Mr. Victor Horsley, F.R.S., Professor Wm. Ramsay, F.R.S., Sir Wm. Roberts, the Chief Rabbi (Dr. Hermann Adler), Dr. J. Rose Bradford, F.R.S., Dr. Thomas Barlow, and Professor A. Kennedy, F.R.S.

A temporary auditorium had been erected, where the invited guests assembled at 3.15 P.M. Fine weather happily prevailed and an unusually brilliant amount of colour was provided, not only by the dresses of the ladies present, but also by the gowns and hoods of a large number of Doctors, Masters, and Bachelors of various Universities who were present in academical dress, conspicuous among them being Dr. Fleming in the brilliant scarlet and gold-coloured gown and hood of a D.Sc. of the University of London. The ceremony was timed to commence at 3.45 P.M., and during the half-hour of waiting the visitors were entertained by a selection of music by the band of the Scots Guards.

Their Royal Highnesses the Prince and Princess of Wales arrived with their accustomed punctuality, and being ushered on to the platform the Duke of Bedford thanked the Prince on behalf of the governors of the hospital for his presence, and called upon Mr. Henry Lucas to make a short statement in reference to the rebuilding of the hospital.

Mr. HENRY LUCAS, after giving a short history of the progress of the hospital since 1833 and stating the need for rebuilding, said that three or four years ago the rebuilding fund had reached a sufficient amount to justify the committee in making a beginning and they requested Mr. Waterhouse to prepare a design for a new hospital. After much consideration and consultation between Mr. Waterhouse and the hospital and medical committees the design which is now to be carried out was adopted, which provides for a hospital to contain about 290 beds, with ample accommodation for out-patients and nurses and for the means of clinical instruction. Complete isolation of every ward from every other part of the hospital will also be secured in the new hospital—an idea emanating from Dr. Poore, "who has," said Mr. Lucas, "for many years given much attention to the subject and to whom the committee are much indebted for his many valuable suggestions in reference to the new hospital." The amount of the rebuilding fund was, however, not large enough to allow of more than a small portion of the new hospital being built at first, and the committee had no hope of its completion until after the lapse of an indefinitely long period. They were then agreeably startled by the splendidly generous proposal of Sir J. Blundell Maple to build the new hospital entirely at his own expense. It was trusted that the whole of the new building would now be completed within three or four years, and be an institution of lasting benefit to the poor and the means of development of the great school of medicine associated with University College.

The PRINCE OF WALES, in reply, said:—"The needy of this locality should indeed be thankful that Sir J. Blundell Maple, who has shown himself so anxious to promote their welfare, is living in their midst. No such magnificent gift for the sick poor of London has, I believe, been made since Thomas Guy established the hospital which bears his name. The prosperous will, I trust, practically mark their appreciation of his generosity by their liberal support of the hospital he is building, and contribute to allay the sufferings of the sick and indigent. I beg subscribers to consider that all general collections for hospitals ought to be regarded as supplements to, and not substitutes for, local subscriptions. Of the utility and the important requirements which the University College meets there can be no doubt. In its immediate vicinity there exists a large population of the labouring classes, many of whom have difficulty, even when they are in full work, in maintaining themselves and their families. When incapacitated by illness or accident it is impossible for them to provide themselves with the means of medical relief. I would point out how valuable are the resources of the hospital when grave accidents occur

in connexion with the three large railway companies—the North-Western, the Great Northern, and the Midland—which all have their London stations within a short distance of a place where the sufferers can obtain immediate relief. Let me say a few words on the incalculable value of the hospital as a school of medicine. Several thousands of its graduates are putting in practice in various parts of the world the lessons they learned at this institution. Many students have risen to great distinction in their profession and foremost among these I am proud to reckon my old friend Sir William Jenner, who is universally recognised as one of the most eminent men of the nineteenth century. I am sure you will unreservedly agree with me that the new building will increase in an immense degree the benefits derived from this hospital. The additional accommodation for the patients and the material improvements in the medical, surgical, and nursing arrangements, as well as in various details of administration, commend themselves to the approval of all who have studied the question. In all the advantages which I have enumerated the medical school will fully participate. When the new building is completed the training of the pupils will be carried on under far more favourable circumstances than hitherto, and by continuing to study the treatment of patients according to the newest improvements, regulated by the most modern science, the students cannot fail to acquire a practical knowledge advantageous to themselves and ultimately to the higher benefit of the general public."

Sir J. BLUNDELL MAPLE then requested His Royal Highness to lay the stone, which was duly done "In the name of the Father, the Son, and the Holy Ghost."

The stone bore the following inscription:—

THIS STONE WAS LAID BY
HIS ROYAL HIGHNESS
ALBERT EDWARD PRINCE OF WALES, K.G.,
Vice-Patron of the University College Hospital,
ON TUESDAY, JUNE 21st, 1898,
AS A MEMORIAL OF THE REBUILDING OF THIS HOSPITAL THROUGH THE GENEROSITY OF SIR J. BLUNDELL MAPLE, BART., M.P.

Under the stone was a jar containing a copy of the current *Times*, the annual report of the hospital for 1897, and a programme of the proceedings.

The choir of St. Pancras Church having sung a hymn, the Lord Bishop of London recited the Lord's Prayer and an appropriate collect, after which he gave the Benediction. The proceedings terminated with the singing of the National Anthem.

QUEEN'S BIRTHDAY CELEBRATIONS AT TAMPA BAY, FLORIDA.

WE have received the following letter from a correspondent dated May 29th, 1898:—

"One of the most pleasing functions took place on the 24th inst., one familiar to most Britishers in their own country, but coming as a most agreeable surprise to those of the English-speaking race who are staying at the headquarters of the army here in Florida. The Tampa Bay Hotel was quite *en fête* to celebrate the seventy-ninth birthday of our beloved Queen. The upper end of the palatial dining-room was draped with the two stirring emblems of the Anglo-Saxon race, the British Union Jack being folded cross-wise and leaning towards the American Stars and Stripes. Beneath the folds of the two flags sat the distinguished President, Colonel A. A. Wiley of Montgomery, the Governor of the State of Alabama. On his left was the Commander-in-Chief of the Military Staff here, Major-General Shafter. At the entrance of the hall was placed an immense framework in the form of a crown tastefully decorated with red, white, and blue flowers, which was universally admired. On one side of the President's table was placed the large body of war correspondents, and on the right the military officers serving under the popular general and the naval officers of the gunboats in the port. The body of the immense hall was filled with the visitors and civilians of the town. Before each guest was placed a ménu card, on the top of which was printed in colours the crossed flags with the motto below, "Blood is Thicker than Water."

The band struck up "God Save the Queen," which is identical with the American air, "My Country, 'tis of thee," followed by the "Star-Spangled Banner." The banquet, at which an address was delivered on the Unification of the English-speaking People, will be long remembered by those who were privileged to take part in it. Surgeon A. E. Wynter, M.R.C.S. Eng., L.R.C.P. Lond., 2nd Division U.S. Army Corps, responded to the toast of "Her Britannic Majesty, Victoria, Queen of England and Empress of India, the greatest ruler of the greatest government in the most marvellous century of the world's history."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6752 births and 3167 deaths were registered during the week ending June 18th. The annual rate of mortality in these towns, which had increased in the four preceding weeks from 16·4 to 16·9 per 1000, declined again last week to 14·7. In London the rate was 13·8 per 1000, while it averaged 15·3 in the thirty-two provincial towns. The lowest rates in these towns were 8·5 in Cardiff, 9·2 in Leicester, 9·5 in Burnley, and 9·6 in West Ham and in Croydon; the highest rates were 19·3 in Manchester and in Salford, 19·7 in Preston, 20·6 in Gateshead, and 22·2 in Newcastle-upon-Tyne. The 3167 deaths included 340 which were referred to the principal zymotic diseases, against 389 and 380 in the two preceding weeks; of these, 105 resulted from measles, 93 from whooping-cough, 49 from diarrhœa, 45 from diphtheria, 26 from scarlet fever, 22 from "fever" (principally enteric), and not one from small-pox. No death from any of these diseases was recorded last week in Norwich or in Bolton; in the other towns they caused the lowest death-rates in Brighton, Cardiff, and Huddersfield, and the highest rates in Wolverhampton, Salford, Halifax, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Plymouth, Halifax, Bradford, and Newcastle-upon-Tyne; from whooping-cough in Swansea, and Gateshead; and from "fever" in Portsmouth and Wolverhampton. The mortality from scarlet fever showed no marked excess in any of the large towns. The 45 deaths from diphtheria included 26 in London, 6 in Leeds, 3 in West Ham, 2 in Salford, 2 in Liverpool, and 2 in Burnley. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and only one case of small-pox was under treatment in the Metropolitan Asylums Board Hospitals on Saturday last, the 18th inst. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on the same date was 2194, against 2195, 2207, and 2169 on the three preceding Saturdays; 230 new cases were admitted during the week, against 256, 220, and 206 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 226 and 212 in the two preceding weeks, further declined to 185 last week, and were 42 below the corrected average. The causes of 48, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Hull, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 23·0 and 21·3 per 1000 in the two preceding weeks, further declined to 20·2 during the week ending June 18th, but exceeded by 5·5 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 17·2 in Paisley and 18·7 in Greenock to 21·2 in Glasgow and 27·2 in Perth. The 609 deaths in these towns included 32 which were referred to measles, 22 to whooping-cough, 22 to diarrhœa, 8 to scarlet fever, and 8 to "fever" (principally enteric). In all, 92 deaths resulted from these principal zymotic diseases, against 112 and 116 in the two preceding weeks. These 92 deaths were equal to an annual

rate of 3·0 per 1000, which was 1·4 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had increased from 27 to 42 in the three preceding weeks, declined to 32 last week, and included 16 in Glasgow, 12 in Dundee, and 3 in Edinburgh. The deaths from whooping-cough, which had been 43 in each of the two preceding weeks, fell to 22 last week, of which 8 occurred in Glasgow, 5 in Edinburgh, 4 in Aberdeen, and 4 in Paisley. The 8 fatal cases of scarlet fever exceeded by 4 the number recorded in the preceding week and included 4 in Glasgow and 3 in Edinburgh. The 8 deaths referred to different forms of "fever" corresponded with the number in the preceding week, and included 3 in Glasgow and 3 in Paisley. The deaths from diseases of the respiratory organs in these towns, which had been 133 and 109 in the two preceding weeks, were 108 last week, and were within one of the number in the corresponding period of last year. The causes of 24, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·7 and 25·1 per 1000 in the two preceding weeks, declined again to 21·9 during the week ending June 18th. During the past four weeks the rate of mortality in the city has averaged 22·5 per 1000, the rate during the same period being 15·6 in London and 21·0 in Edinburgh. The 147 deaths registered in Dublin during the week under notice showed a decline of 21 from the number in the preceding week, and included 6 which were referred to the principal zymotic diseases, against 10 and 4 in the two preceding weeks; of these, 4 resulted from different forms of "fever," 1 from whooping-cough, and 1 from diarrhœa, but not one from small-pox, measles, scarlet fever, or diphtheria. These 6 deaths were equal to an annual rate of 0·9 per 1000, the zymotic death-rate during the same period being 1·7 in London and 3·5 in Edinburgh. The deaths referred to different forms of "fever," which had declined from 4 to 1 in the four preceding weeks, rose again to 4 last week. The mortality from whooping-cough showed a further decline from that recorded in recent weeks. The 147 deaths in Dublin last week included 29 of infants under one year of age, and 40 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon recent weekly numbers, while those of elderly persons showed a decline. Four inquest cases and 5 deaths from violence were registered; and 51, or more than a third, of the deaths occurred in public institutions. The causes of 11, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

STAFF-SURGEON GEORGE FREDERIC DEAN, B.A., M.B., has been placed on the retired list of his rank.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Green, Surgeon-Lieutenant Hearn, Surgeon-Lieutenant McArdle, and Surgeon-Lieutenant O'Gorman are under orders for service in Egypt. Brigade-Surgeon-Lieutenant-Colonel Grier's appointment to the Scottish District is cancelled *pro tem.* and he is ordered to remain at Aldershot for the present. Surgeon-Major Addison joins at Woolwich for duty. Surgeon-Colonel William Graves is placed on retired pay. Surgeon-Major Arthur Harding is placed on temporary half-pay on account of ill-health.

THE SPANISH-AMERICAN WAR.

There is but little to chronicle regarding the Spanish-American War, which still drags its weary length along. The American transports conveying the military expedition are reported to have arrived in the vicinity of Santiago. With regard to the general invasion of Cuba and Porto Rico it is thought that some 200,000 troops will be required; but the President of the United States, who is apparently a strong man of independent and sound judgment, is averse to the conduct of military operations in Cuba for sanitary reasons until the end of the rains. Manila, if it has not already fallen, must certainly soon do so, and it is believed that the town will be occupied by forces from the war vessels together with the troops sent to Admiral Dewey's aid from America to form a land force. It was generally thought that this war would afford some interesting lessons in naval strategy, tactics, and new inventions. We had very sensational descriptions of the terrible effects of the dynamite shells fired by the *Vesuvius*, resembling those of an earthquake, but these have not been since followed up by any corroborative particulars. It was, at any rate, open to Spain to make a strong defence of her colonies and to harass the naval ships and transports of the States in various ways and directions, but the Spaniards have so far shown a lamentable want of naval skill and enterprise. They seem to have been content to exhibit their undoubted courage by dying at their posts in honour of their country. The Spaniards were not only entirely unprepared for war, but their Government has shown that it was quite incompetent to conduct any war. The Cadiz fleet has put to sea, but its destination and object are alike unknown, and it is not apparently strong enough, in any case, to do much. We hear very little news of the medical departments of either Spain or America; indeed, there has not seemingly up to the present time been very much to do so far as the sick and wounded are concerned. The Spanish losses about Manila must, however, have been large. Admiral Dewey's fleet is reported to be very healthy.

THE VOLUNTEER MEDICAL ASSOCIATION.

The annual meeting of the Volunteer Medical Association was held at 20, Hanover-square on Wednesday, June 15th. Brigade-Surgeon-Lieutenant-Colonel Andrew Clark, V.D., was re-elected Chairman of Council, and Surgeon-Captain Rory Fletcher and Surgeon-Captain J. Harper, honorary secretaries. Surgeon-Lieutenant J. Cantlie was appointed honorary treasurer, and Surgeon-Lieutenant-Colonel A. T. Norton, C.B., V.D., elected a Vice-President. The old council, with three exceptions, were re-elected and the name of Surgeon-Lieutenant L. A. Bidwell was added to that body. The report of the retiring council, which was of a highly favourable character, was adopted. The competition for the Ambulance Challenge Shield will take place at Wellington Barracks on Saturday, July 23rd, at 4 P.M. We may remind intending competitors that entries will close on July 1st.

THE WEST AFRICAN ARMY MEDICAL SERVICE.

Appointments in the West African Medical Service are again open and will be competed for at an examination of candidates for the Army Medical Staff to be held on Aug. 5th next. Applications should be sent to the Director-General of the Army Medical Department, 18, Victoria-street, London, W., before July 27th.

THE PRINCIPAL MEDICAL OFFICER IN INDIA.

It is announced that Surgeon-Major-General W. Taylor is to succeed Surgeon-Major-General Gore as Principal Medical Officer of H.M.'s Forces in India. Surgeon-Major-General Taylor is to be congratulated upon his good fortune. He has some thirty-six years' service and was in the last Ashanti campaign of 1895 in medical charge of the expedition under Sir Francis Scott.

THE COMING SOUDAN CAMPAIGN.

All the officers of the medical staff ordered from this country to Egypt will, it is understood, embark early next month. The Anglo-Egyptian force designed to take part in the advance on Khartoum will be a large one, as it is anticipated that there may be a good deal of fighting on the part of the Dervish forces. It may be assumed that on this occasion stretchers will be provided with moveable hoods for the protection of the wounded and sick against the sun, that the Roentgen ray apparatus will be carried with the field army, and that so far as is compatible with the nature of the operations the Government and military authorities will see that everything required by the medical staff for the efficiency of the hospital and transport service is forthcoming.

COUNTY LABORATORY FOR GLAMORGANSHIRE.—At the meeting of the Glamorganshire County Council held on June 16th it was decided to advertise for a bacteriologist and that 9, The Parade, Cardiff, should be taken and converted into a county laboratory.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following is a record of some of the principal amounts received at the Mansion House, according to the lists which have reached THE LANCET office up to our going to press on Thursday, when the total sum amounted to over £25,500. At the corresponding period last year the total was £23,000.

	£	s.	d.
St. Paul's Cathedral	290	16	2
St. Michael, Chester-square (Rev. Canon Fleming, B.D.)	1258	0	0
"Delta"	200	0	0
Mr. Geo. Herring	200	0	0
A. G. P.	300	0	0
Curzon Chapel, Mayfair	128	10	0
St. Matthew, Denmark-hill	100	17	10
St. Nicholas, Chislehurst, including £100 from Mr. H. Foster	276	15	4
Westminster Abbey	167	9	10
Holy Trinity, Sydenham	200	0	0
Holy Trinity, Tulse Hill	175	3	4
Union Chapel, Islington	145	7	7
Christ Church, Lancaster Gate (Rev. C. J. Ridgeway)	1367	4	0
All Saints', Ennismore-gardens	480	2	4
St. Andrew, Wells-street	118	10	8
St. Michael, Paddington	154	12	9
All Saints', North Peckham	175	4	0
Upper Norwood Baptist Chapel	73	11	6
St. German's, Blackheath	51	17	2
Stoke Newington Parish Church, £59 7s. 10d.; the Old Church, Stoke Newington, £34 9s. 4d.; Mission of the Holy Redeemer, Stoke Newington, £27 12s. 4d.	121	9	6
Metropolitan Tabernacle (Exeter Hall)	53	12	7
Hammersmith Parish Church	37	13	6
Allen-street Congregational Church, Kensington	57	13	0
West Wickham Parish Church and Mission	37	19	5
St. Gabriel, Warwick-square	50	4	7
Crouch-hill Presbyterian Church	58	12	0
St. Michael and All Angels, Blackheath-park	89	2	11
St. Thomas, Portman-square	63	3	5
Hornsey Parish Church	44	9	3
St. Mark, Reigate	78	6	1
Hampstead Parish Church	66	5	5
Greek Church, Bayswater	85	9	0
St. George's Chapel, Albemarle-street	64	13	4
Emmanuel Church, Wimbledon	69	0	1
Wanstead Parish Church and Christ Church	47	12	2
Putney Parish Church	98	1	5
St. John, Putney	59	7	9
Bromley Parish Church, Kent	74	1	6
St. Mary, Boltons	60	0	0
St. Saviour, Upper Chelsea	144	2	2
St. Marylebone Presbyterian Church	62	18	6
St. Luke, West Holloway	40	0	0
St. Andrew, Fulham	87	10	11
Christ Church, Mayfair	131	13	8
Christ Church, Gipsy Hill (morning collection)	123	8	4
Effra-road Unitarian Church, Brixton	48	17	2
St. Paul, Upper Norwood (morning offertory)	78	16	6
Christ Church, Ealing	43	16	2
St. Barnabas, Addison-road	128	12	8
Christ Church and St. Andrew, Hornsey	77	5	0
St. Mark, North Audley-street	72	15	7
St. Stephen, Ealing	91	12	6
St. Paul, Onslow square	447	3	0
F. G. D.	50	0	0
Holy Trinity, Marylebone	76	19	10
Church of Annunciation, Chislehurst	81	9	9
St. Agnes, Kennington Park	40	15	0
St. Saviour, Paddington	61	7	11
St. Stephen, South Kensington	124	15	2
St. Luke, Nutford-place	112	11	11
Immanuel Church, Streatham-common	96	13	2
St. Michael, Highgate	54	15	11
St. James, West Hampstead	128	14	6
Camden Church, Camberwell	68	6	8
St. Matthew, Bayswater	157	19	1
Bromley Congregational Church	60	18	11
Chapel Royal, Hampton Court	51	3	7
Christ Church, Hampstead	105	9	3
Christ Church, Lee Park	52	7	7
St. James, Kidbrook	115	13	7
St. Paul, Knightsbridge, and St. Mary, Graham-street	344	15	2
St. Peter, Vere-street	305	0	0
Holy Trinity, Upper Chelsea	201	5	6
St. Martin-in-the-Fields	212	7	9
Rosslyn-hill Unitarian Chapel	101	16	2
Holy Trinity, Paddington	121	4	6
St. Alban, Streatham Park	145	16	3
St. Mark, Hamilton Terrace	297	2	6
St. Mary, Kilburn	130	0	0
St. Bartholomew and St. Matthew, Sydenham	137	10	11
St. John, Paddington	160	4	9
Essex Unitarian Church, Kensington	140	0	3
St. George, Hanover-square, and St. Mary, Bourdon-street	198	5	5

The records of other amounts have been received and will be published in our next issue.

Correspondence.

"Audi alteram partem."

"VITALITY."

To the Editors of THE LANCET.

SIRS,—In his paper in THE LANCET of April 16th, Dr Beale denies that life can result from matter and forces, but does not give his own view as to its origin. It seems to me we must either admit that matter and forces can generate life or accept the statement in Genesis that the breath of God imparted life to inanimate matter. To me and to all who believe in the correlation and transmutability of physical forces, the matter and force origin of life is far more intelligible and probable than the miraculous and we see no good reason why life, the vital force, should be excluded from the list of convertible forces, such as heat, motion, chemical action, light, and electricity. The possibility of abiogenesis—the genesis of living from non-living matter—has been admitted by many profound thinkers and scientists, including Aristotle, and some years ago Dr. Charlton Bastian made a series of experiments (published at the time in *Nature*) which seemed to prove that abiogenesis was not only a possibility but a fact. He made infusions of hay, turnip, &c., and exposed them in hermetically sealed flasks to temperatures which Pasteur and Tyndall admitted were destructive of germs and every form of life; after some days he examined these infusions microscopically and found in them various forms of vegetable life. These experiments, however, did not convince Pasteur and Tyndall, who considered them fallacious and inconclusive. Tyndall had long before contended that the earth was once in a nebular condition, that it gradually cooled down and became solid, and that then low forms of vegetable life appeared upon it; but as he did not believe in abiogenesis how did he account for this first appearance of life? Assuming that living things can be generated by matter and forces, we can go back in imagination to the nebular period when the earth was "without form and void," then to the period when it cooled and solidified and produced low forms of vegetable life. Evolution would then carry us forward to the earliest and lowest forms of animal life and thence through the whole series of animals up to man and mind. In nature there are no hard-and-fast lines of demarcation; things run into one another, like the prismatic colours of the rainbow. The vegetable kingdom runs into the animal and vegetable and animal protoplasm are indistinguishable. When we arrive at fishes we find them gradually passing into reptiles, reptiles into birds, birds into mammals, apes into man; and on the borderland between any two kingdoms we find creatures with some of the character of both, so that it is difficult to decide to which they belong. There are anthropoid apes and pithecoid men, and those who believe that man alone has a soul would find it difficult to determine which animal on the borderland possessed it and which did not and to say this monkey-like man has it, that man-like ape has not. If then in nature we find no hard and fast lines of demarcation why should we try to draw one between dead matter and living and at a certain point in evolution call in the aid of a miracle such as the breath of God? We can draw no hard and fast line between light and darkness, day and night, spring and summer, autumn and winter, boyhood and manhood, the ebb and flow of the tide, the terrestrial atmosphere and the illimitable ether beyond it; and if living matter runs into dead why not dead matter into living?—I am, Sirs, yours very truly,

D. HOOPER, B.A. Cantab., M.B. Lond.,
Physician to the Surrey Dispensary.

Trinity-square, S.E., June 10th, 1898.

POISONING BY STRYCHNINE.

To the Editors of THE LANCET.

SIRS,—THE LANCET of June 18th contains a letter from Dr. Robert Barnes, in which he emphasises the fact that the most effectual treatment of the convulsive state is absolute rest—a maxim with which, I think, everyone will be in accord. However, it is not sufficient only to protect the motor muscular system from every source of

external irritation, but great additional benefit may be obtained by deadening the acuity of the sensory organs of sight and hearing. I well remember when I was house physician at St. Bartholomew's Hospital having the charge of a case of hydrophobia in which strong tetanoid spasms had set in and these attacks were excited by the slightest noise or even by the sight of anyone moving in the room. In order to reduce these sources of irritation to a minimum I had the man's eyes blindfolded and his ears plugged with cotton-wool. Of course, it is needless to say that the patient did not recover; but I am sure of this, that by the measures adopted his last sufferings were greatly ameliorated, the convulsions being immediately lessened in frequency, duration, and in violence.

I am, Sirs, yours faithfully.

Worthing, June 20th, 1898. W. T. WYATT.

"PUBLIC SCHOOLS AND FOOD."

To the Editors of THE LANCET.

SIRS,—With reference to the subject of school diet so ably and sensibly handled in THE LANCET of June 18th I would ask, Why should not the physiologist construct a model diet table for schools, just as has been done in the case of prisons and kindred institutions with the very best results as regards the health of the inmates? Such a model diet would at one and the same time be the healthiest and the cheapest. Without attempting to construct one myself I would throw out the following suggestions. Breakfast should consist chiefly of porridge and milk, brown bread should be substituted for white, and tea and alcohol should be banished. Care should be taken, moreover, to give food which requires a good deal of mastication. Our children are fed for the most part on soft and pappy foods which are swallowed after little or no mastication, with the result that the teeth and jaws are not properly exercised. This is, I am convinced, one of the chief causes of the decay of the teeth so common among us.

I am, Sirs, yours faithfully,

Wimpole-street, June 20th, 1898. HARRY CAMPBELL.

"THE ALLEGED DEARTH OF QUALIFIED ASSISTANTS."

To the Editors of THE LANCET.

SIRS,—In connexion with this subject, and more especially with a letter from "G. P." in the *British Medical Journal* of June 11th, it would be very interesting to know what "G. P." does really consider a "tempting" salary to offer to a qualified assistant. I have for the last few years been a constant peruser of the advertisement columns of THE LANCET and the *British Medical Journal* and I fail to recall to my memory any offer of such an alluring character as hinted at by "G. P." appearing in them, or, moreover, being made through the medium of an agent. Take, for instance, last week's medical journals: there are some twelve indoor appointments and six outdoor ones of which the salary is stated, the average remuneration of the former working out at some £98 per annum; of the latter—two with unfurnished houses, three with rooms and attendance, and one with unfurnished house—at the munificent sum of £138 per annum. Surely none of these offers can be a repetition of that "tempting" one that "G. P." almost pitifully tells us of? I do not know how "G. P." arrives at the conclusion that there are so many vacancies for qualified assistants, but admitting that such is the case I trust that most of these vacancies will remain unfilled until the monetary inducement for employment in this capacity is substantially increased and until the status, comfort, and general treatment of the qualified assistant are greatly improved. This piteous plaint of the scarcity of the qualified assistant is only a phase of the agitation for the retention of the unqualified one, but the sooner those men who have been employing the latter kind of aid make up their minds that the decision of the Council is irrevocable, the sooner will there be—owing to the better position and salary offered them—a sufficient supply of qualified men.

It is not, however, altogether the financial question which causes men to "bar" assistantships so persistently. Principals should bear in mind that they cannot treat men their equals in birth, if not of better, and in a great many instances professionally and generally better educated, as they have hitherto treated the broken-down failure or, in so many cases, the drunken wastrel *sine diploma* but with full curriculum. There is, again, another factor to be considered. The young practitioner has recognised the fact that the action of the Council has placed him in a much better position to combat the game of "grab" played by so many men who, finding that they have much more than they can do, are not willing to let the young ones have a chance, but "sweat" two, three, even five assistants, qualified and unqualified. *Apropos* of "sweating" there is an advertisement offering a man £150 per annum for working a branch avowedly worth £700 per annum. Surely this is "sweating" pure and simple, but he can now make his bid for a fair share of patronage, assured that—if the Council does its duty—he will be protected from the "underbidding" opposition of the unqualified and that the trading tactics of the "limited liability company" class of practitioner will be materially hampered. I challenge his statement that death and retirement absorb some 600 men annually. I have not the means of verification at hand, but he will find, I think, that during the last few years a surplus of some 300 or 400 (over and above the removals from the two causes mentioned) has been added yearly to the Register. As to his medical friend who was unable to obtain a "locum"—even for an advance of 25 per cent. on the usual terms—if he will consult the columns of the medical journals he will find (omitting the various agencies) some eight or nine gentlemen ready to accommodate him, though they require for remuneration something more than the benefits of "bracing air and an interesting country," so ingenuously offered by a practitioner as the sole salary for a three weeks' "locum"—25 per cent. increase on the *locum's* "usual terms"! Ye gods! I am in want of neither assistantship nor "locum" myself—as a matter of fact I am not in "general practice," else I might almost be tempted to offer my services to this belated and almost recklessly extravagant individual.

I am, Sirs, yours faithfully,

June 20th, 1898. M.A. CANTAB., M.A., M.B. DUBLIN.

To the Editors of THE LANCET.

SIRS,—The continuance of the correspondence against the act of the General Medical Council *re* unqualified assistants has a tendency at first sight to make one think that it has not been a popular one. From a personal knowledge of several large Lancashire towns I do not believe such to be the case, the different medical societies having approved of it. Nor have I noticed as an effect any more activity on the part of midwives, as was suggested by a correspondent in THE LANCET of June 18th. It appears to me that it must be the unqualified men and those who have made use of them that are keeping up the agitation. Amongst the younger men in these towns there is much jubilation and in the case of those who are assistants it has not only improved their status but has considerably improved their salaries. In one of these towns I know personally four men who were until recently diagnosing, prescribing, &c., daily who have never been near a medical school and who are ignorant of the rudiments of anatomy and physiology. It is this class that medical men want to see abolished. One can almost excuse the maintenance of a man who has really tried the legitimate study of medicine and has not succeeded in finishing his task, but to see qualified men wanting to maintain those whose knowledge is equivalent to that of a quack is a puzzle to me.

I am, Sirs, yours faithfully,

June 20th, 1898. AN ASSISTANT, M.D.

BORIC ACID IN BUTTER.—At the quarterly meeting of the Local Government Committee of the Glamorganshire County Council held on June 16th the county analyst (Mr. C. A. Seyler) presented his quarterly report. This stated that of 38 samples of butter which had been examined 25 were free from boric acid, the remaining 13 contained the acid, but the amount used had now decreased below the limit imposed by the council and in no case exceeded 0·5 per cent. Mr. Seyler had examined 5 hams, all of which contained boric acid, the average giving 0·24 per cent., and he suggested that the same limit should be placed on ham as on butter—viz., 0·5 per cent. The committee adopted the report.

THE MADRID MILITARY HOSPITAL.

(FROM A SPECIAL CORRESPONDENT)

IT suffices to visit the Madrid military hospital to be convinced that sanitary progress in Spain is not only possible but has actually been achieved, at least in one direction, and this with no mean measure of success. At the same time it must also be recognised that such progress is fraught with exceptional difficulties. The poverty of the country is a valid excuse for delay, but the innate spirit of procrastination which is a prominent feature of the national character constitutes a still greater obstacle. This, however, adds to the credit of the energetic minority which has finally overcome both apathy and poverty. The history of the military hospital is a good illustration of the patience and perseverance which Spanish sanitary reformers must exercise before they can achieve their purpose. The hospital originated in a large edifice erected in the Calle de las Princesa by order of King Philip V. Here the sons of the nobility were to study theology and various sciences under the tutelage of the Jesuit Fathers. Some rooms in this building were set aside as a military hospital so that the pupils of the seminary might have facilities for studying medicine and surgery. Of course no one concerned in this enterprise had any idea of sanitation. Gigantic cesspools were constructed, as if the main object was to preserve pathogenic germs on the premises as long as possible. The patients were placed where there was hardly any light or ventilation, but a vast amount of space was wasted in building a monumental staircase, a magnificent chapel, and luxurious saloons and rooms for the wealthy pupils of the establishment. As a result it was found very difficult to successfully treat any of the patients and those who came in with slight complaints soon contracted much more serious illnesses as a consequence of their sojourn in such an unwholesome place. Nor did the mischief end here, for these diseases soon spread to the pupils and to others. There were no means of isolating infectious diseases and, the building being four storeys high, disease spread from floor to floor. In 1822 this edifice became the Imperial College and the birthplace of the Central University. In 1844 its use was restricted solely to that of the military hospital for Madrid. These changes did not alter the insanitary condition of the edifice, and even in 1885, when the cholera broke out in Madrid, the state of the military hospital was most unsatisfactory. Efforts were then made to render the hospital more wholesome. New doors were opened, extra windows were cut in the walls, partitions were erected for purposes of separation and isolation, and the patients had to lie close to the fresh whitewash and the moist mortar of new walls.

There had been some proposals made to build a new military hospital, but the chief argument was not based on the unwholesome character of the existing hospital: it rested on the fact that the building was old and likely to fall to pieces. These proposals date back to the year 1873. A commission was appointed and it suggested the construction of a new hospital with 300 beds and also indicated means by which the old hospital could be improved. Five years later there was another project for building a new hospital with 1000 beds. The military, medical, and engineering departments worked together and other schemes were propounded, notably one for the building of two hospitals as far apart as possible. Thus projects and reports accumulated, but nothing was done. In the meanwhile the old hospital showed signs of decay which became more evident every day. In 1887 it really seemed as if the crisis was at hand and to facilitate its solution the municipality of the outlying district of Lower Carabanchel offered, as a free gift to the Ministry of War, a large piece of land for the erection of a new hospital. This gift was nominally accepted, but still nothing was done. Discussions continued and there is no knowing how long they might have lasted but for an accidental circumstance which fortunately clinched the matter. Early in February, 1889, a fire broke out in the old hospital, destroying one of the wards, and the municipality of Carabanchel seized this opportunity of renewing its offer, which this time was definitely accepted. By a Ministerial order of May 23rd, 1889, measures were taken in view of the early construction of a new military hospital at Carabanchel.

The land offered is situated on a slope which is 40 metres above the lower levels of Madrid and 680 metres above the Mediterranean Sea at Alicante. The surface measurement of the ground is equal to 84,123 square metres. Close at hand there are two triangular plots of land measuring together 17,074 square metres, which it is proposed to purchase as a reserve in case of epidemic, where temporary huts or pavilions could be built to receive and isolate patients. The distance from the centre of Madrid to the new military hospital is 5 kilometres and an electric tramway will connect the hospital with the town. At present the only means of communication is by carriage, ambulance waggons, or the ordinary tramway drawn by mules which goes to the village of Carabanchel, whence the hospital can be reached after a few minutes' walk. The soil of the hospital grounds consists of a mixture of sand and clay, the latter becoming more and more compact deeper down till it finally constitutes an impermeable stratum.

After duly levelling the soil it was decided to build pavilions in a N.E. to S.W. direction, which suits best the climate of Madrid. The height of the buildings, in proportion to the width of the open spaces or streets, is as 1 to 1·748. Thus the highest pavilion with an upper floor and attic reaches a height of 13·77 metres. The pavilion opposite is at a distance of 21·88 metres. In all, 24 pavilions or separate blocks of buildings were erected and an effort has been made so to place them as to facilitate the services and yet not to mar the general aspect of the hospital. Though the land is in the shape of a somewhat irregular hexagon there is space enough to carry out a fixed design. The site is surrounded by an avenue which constitutes a promenade and also affords means of removing corpses without passing through the hospital grounds.

The principal entrance faces a garden which is spread out in front of the block of buildings devoted to the general directorship of the hospital. Here I was most courteously received and permitted to inspect the private rooms of the medical staff, their library, and on the ground-floor the offices where the entry and departure of patients and all other details are registered. Immediately behind this block there is a building which in itself constitutes a complete hospital. This is reserved exclusively for officers. There are quarters for two generals, each consisting of a small study or sitting-room, a bed-room, dressing-room, bath-room, and private lavatory. There are also 2 special apartments for colonels and 14 beds for officers of inferior rank. There is a small operating-room, a kitchen, and rooms for the medical staff and nurses attending the officers. Thus the officers have under the one roof all they need and their quarters constitute a small self-contained hospital, which is quite independent of the general hospital intended for the rank and file of the army. Behind these two buildings, the administrative offices, and the officers' quarters there is a vast garden with a chapel in the centre. On each side of this garden are three large pavilions. Four of these six pavilions have an upper floor and they are intended to receive medical cases. Two pavilions with no upper floor receive the surgical cases and are connected by a covered way with a separate building which contains a model operating-room.

Each pavilion has a large basement 2·50 metres high which is not utilised for any other purpose than that of warming and ventilating the ward above and of protecting it from damp. On the medical side each of the four pavilions consists of four wards, two on each floor. These wards have a surface measurement of 179 square metres, contain only sixteen beds, and this, taken with the height of the ward, gives 50·35 cubic metres of air-space to each patient, which is rather more than the amount required in the most recent model hospitals. At the outer extremity of these wards are situated the bath-rooms and the closets. These latter are on the flush-out system, and the flush, which I tested, is efficient. The drain-pipes and waste-water pipes are carefully trapped. The closets are far enough away for a current of air to be established between them and the wards. At the other end of the wards, or the centre of the pavilion, are two rooms where patients may be isolated. Here also are the rooms for the nurses, attendants, &c. In these smaller rooms, as in the wards, the angles have been rounded off to prevent the accumulation of dust, and the ceilings are arched so as to facilitate the evacuation of the vitiated air. There is a horizontal ventilating-shaft along the apex of the ceiling leading the vitiated air to a vertical shaft which communicates with a Boyle ventilator on the roof. For the inlet there are Tobin

tubes. A boiler placed in the basement provides a slight pressure of steam, which circulates in coils disposed so as to warm every part of the building.

The surgical wards only differ from the medical wards in so far that there is no second floor and in the fact that each ward has a little operating-room of its own. Instead of dressing wounds in the common ward and before the other patients this is done privately in these small operating-rooms. For serious operations a magnificent operating-room has been built, consisting of a rotunda of iron and glass which joins the roof by a parabolic segment. A large portion of the roof is of glass. The operating-room measures 35 square metres, so that if necessary several operations can be performed at the same time. Needless to say that the operating table, of nickel and plate glass, the cases for dressings, the trays for instruments, in fact, all the furniture, are made according to the most recent aseptic principles. The operation room, in spite of its loftiness, its size, and the fact that a portion of its walls are of glass, is so well provided with warming apparatus that the temperature can be raised to 38° C. The whole can be washed out with a fire hose. Adjoining and forming part of the same building there is a retiring room for the surgeons, a chamber for administering chloroform, a bath-room, and "arsenal" (so-called) for the surgical instruments, and a room where numerous coloured anatomical drawings of operations, &c., are kept for reference. The splendid light which the rotunda gives and all the surrounding conveniences have been carefully thought out and the Madrid military hospital can therefore be said to possess one of the best operating-rooms which have ever been constructed. In size and convenience it surpasses the operating-room of the Mahommedan Women's Hospital at Constantinople.

The four medical and the two surgical pavilions constitute the main portion of the hospital where the greatest number of patients will be found, but there is also a pavilion for soldiers under arrest. Here the windows have iron bars and there are other indications that this is a prison hospital. Then there is a separate building for the insane, surrounded by high railings with space within for the patients to take a little exercise. Right at the back, separated from the rest of the hospital, there are three pavilions reserved for infectious cases. The only difference between these and the other pavilions is that the wards contain only 12 instead of 16 beds. Adjoining is a building where the washing and the cooking can be done, not only for the patients in the pavilions set aside for infectious cases, but also for those who may in the event of an epidemic occupy the huts or tents which would be put up on the surrounding vacant ground. For the rest of the hospital there is a much larger laundry establishment with the most recent labour-saving machinery. A disinfecting stove is attached to this laundry so that linen, &c., can be sterilised before it is given over to the washerwomen. Another large building contains workrooms for the repairing of linen, vast warehouses for the storing of linen, blankets, &c. The cupboards are some 5 ft. deep; they open at the back and in front and there are holes in the door to permit a free passage of air. But many of these cupboards were empty, their contents had been sent to Cuba. In the basement of this building there is a vast bakery, where all the bread consumed in the hospital is made, and the pharmacy occupies the ground floor. In the kitchen, with the aid of steam, meals for 500 persons can be prepared and there are coke stoves as well in case the supply of steam should accidentally fail or in the event of a larger number of meals being required. Of course, there are vast store rooms for provisions, cellars for wine, and separate pavilions for the nursing sisters and other attendants.

At first it was proposed to build an anatomical and pathological institute and museum, but subsequently it was found more convenient to construct an institute of military hygiene in the town of Madrid itself. Thus there remains at Carabanchel only a small or branch museum. Nevertheless this contains all that is necessary to aid the professors of surgery and medicine in their work. One of the most remarkable installations is a separate building in which are situated the post-mortem room and the mortuary room. In the basement and connected by a lift with the upper part there is a refrigerating chamber where corpses can be kept for any time in a temperature, if necessary, of 10° C. below zero. As the entire hospital is lighted by electricity there has been no difficulty in providing all that is required for the employment of Roentgen rays whenever necessary.

For all these buildings the foundations are of granite. A stone wall surrounds the basement, which is 1 metre below ground and 1½ metres above ground. From the top of the basement the wall is in brick of the best quality, with an air space in the thickness of the wall so as to regulate the temperature and protect the patients from the risk of sudden changes. The walls are painted inside with the Psicroganoma varnish, manufactured at Turin, and which can be washed with antiseptic solutions without being damaged. In the basement the earth is covered over with compressed tar and asphalt. This forms a good damp-proof course. The sewers which drain the hospital are more than 2 miles in length and have their outfall in the river. They do not join any other system of sewerage. There are gullies to catch the sand and Doulton automatic flushing tanks to wash out the sewers at regular intervals. As the village of Carabanchel has not sufficient water for its own purposes a special canalisation had to be built for a distance of 9 kilometres, and by this means a supply equal to an average of 600 litres per patient per day has been obtained. As, however, the supply is somewhat irregular large tanks had to be constructed so as to keep a reserve ready at hand. Telephonic communication connects all the buildings and the services. The director from his office can speak with anyone in any part of this vast establishment. Finally, it should be noted that, though within easy reach of Madrid and close to the suburb of Carabanchel, the hospital is practically in the country; it stands by itself with cornfields just outside its walls, and the patients therefore enjoy pure air. Though there was much unnecessary delay in the building of this hospital everything that could be done to atone for this loss of time has been achieved. The military authorities of Spain can now boast that they possess a model institution. All who visit this hospital must acknowledge that sanitary progress in Spain is possible, that if a fair opportunity is afforded to the architects of the country they are fully competent to and would soon place Spain on a level with the most advanced nations in respect to public institutions of this description.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Plague Administration in Bombay.—The Recrudescence in Karachi.—The Outbreak in Calcutta.

AFTER passing through many hands the responsibility for all plague operations in Bombay is now vested in the Municipal Commissioner. A special deputy commissioner will also be appointed. It is proposed in addition to appoint a special medical officer for the charge of plague hospitals and other plague medical duties, who will be deemed to be a joint health officer under the Municipal Act. These changes refer to plague, but there is also a scheme in hand for the re-organisation and extension of the Health Department. The general health of the city is now good and there does not seem to be any very active plague anywhere, although from 10 to 20 cases continue to be reported daily. Relapsing fever still lingers amongst the famine immigrants, but means are being taken to transport them back to their villages. It must be admitted that thousands of houses in the city of Bombay are cleaner than they ever were before, that sanitary supervision has improved, and that perhaps the plague has taught some people cleaner habits. Some ultimate good may thus arise from this disastrous epidemic.

At Karachi the disease is apparently subsiding, but large numbers of the inhabitants have gone out into the jungle. The worst houses have been emptied and the people sent into camps. General cleansing of dirty houses and removal of dangerous rubbish has been extensively carried out. No trouble has been experienced in carrying out the various operations, many of the natives voluntarily reporting their cases and otherwise assisting the authorities. Inoculation has been offered as an alternative to segregation and is now being freely accepted. With regard to the general administration of plague operations the same errors have been made here as elsewhere. Medical men are placed in subordinate positions while military and civil service officials reign supreme. In consequence of the little trust which can be placed in native medical men the duties of some of the

English practitioners have been considerably less technical than those of a sanitary inspector. The same disappointment in the duties allotted to them has been felt by the English medical men nearly everywhere. The rate of mortality from Plague in Karachi has been over 78 per cent. but the type seems now somewhat less virulent.

In Calcutta disturbances have been very numerous although not extensive. It is now found necessary to send a guard of European police with the English medical men on their rounds of district duty as in a recent disturbance Surgeon-Lieutenant-Colonel Laing narrowly escaped being severely handled by a large crowd and only saved himself by the use of his revolver. He had to fire three times, wounding three men, two of whom have since died. Considerable difficulty exists in carrying out any plague measures, but the number of cases so far recorded is only about 62. As plague has been existent in Calcutta for several weeks it is difficult to suppose that the few daily recorded cases represent the correct number. It is most probable that, as in Bombay, many cases are being concealed and that deaths are being returned as from other diseases.

June 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Presentation of the Freedom of the City of Edinburgh to Lord Lister.

ON Wednesday, June 15th, the M'Ewan Hall, Edinburgh, was for the first time utilised for a civic function and a large number of citizens assembled to witness the conferring of the freedom of the city on Lord Wolseley and Lord Lister. The medical and military professions were well represented and the hall was barely large enough to accommodate all those who had secured tickets of admission. Lord Lister appeared in morning dress, while Lord Wolseley was attired in the full-dress uniform of Commander-in-Chief. After the proceedings were opened by the Moderator of the Church of Scotland engaging in prayer the presentation was made first to Lord Wolseley and thereafter to Lord Lister. A minute of the council was read by the Town Clerk, in the course of which it was stated that the freedom of the city had been conferred on Lord Lister "in recognition of their very high admiration of his brilliant and distinguished career as a surgeon and particularly of his discovery and establishment of the antiseptic method of treatment in surgical operations." The Lord Provost, in his speech, referred to the considerations which had lead them to confer the freedom of the city on Lord Lister; he recalled Lord Lister's work in Scotland, beginning with his appointment as house surgeon under Professor Syme. Subsequently to this he became successively assistant surgeon to the Royal Infirmary, Lecturer on Surgery in the Edinburgh Extra-mural School, Professor of Surgery in Glasgow University, and, finally, Professor of Clinical Surgery in the University of Edinburgh. In 1877 he left Edinburgh and went to London, where he occupied the chair of Clinical Surgery in King's College Hospital until 1896. He was now President of the British Association and of the Royal Society of London. It was in Glasgow that Lord Lister commenced his investigations into the cause of the bad results which so often followed surgical operations in those days, with a view to finding a remedy for the evil, and these investigations, continued in Edinburgh, culminated in the institution of "the antiseptic system of surgery," which would always be associated with his name. He had revolutionised the science and practice of surgery and had done more to diminish suffering and prolong life than any other living man. It was surely the highest honour to which any man could wish to attain to be a benefactor of his species. It was the glory of such a discovery as his that its blessings were not confined to his own practice or to his own age; it was for all mankind and for all time. Many suffering ones in all lands had already reaped the fruit of his labours and untold numbers in the years to come would have cause to bless his name. The Lord Provost having in appreciative and eloquent terms indicated the reasons which had led the town council to confer the freedom of the city on Lord Lister then turned and addressed him as follows: "My Lord Lister, we have great pleasure in enrolling you an honorary burgess of this city, with which you have already such close associations. We and our fellow citizens—among whom there are many who are your devoted admirers and disciples and some who are your warm personal friends—welcome you to the highest honour it is in our power to bestow." The Lord Provost, on concluding his speech, handed to Lord Lister the burgess ticket enclosed in a silver casket. Lord Lister, in replying, expressed great gratification at the distinction which had been conferred on him by the city of Edinburgh. He had special reasons for feelings of gratitude to Edinburgh dating from the conclusion of his student days in London, when as a perfect stranger he had come to Edinburgh with a letter of introduction to Professor Syme. In Edinburgh he had spent his best and happiest years. He felt that the honour received by him that day was much enhanced by the fact that it was conferred at the same time on the illustrious head of the British army. The work of the surgeon was in some respects analogous to that of the soldier, although happily the analogy was not now so close as it once had been. He thanked the Lord Provost for his generous reference to the share which he had had in bringing about the latter result, for he regarded all worldly distinctions as nothing in comparison to the hope that he might have been the means of in some degree reducing the sum of human misery. On the conclusion of Lord Lister's speech the Lord Provost according to custom called for three cheers for the young burgesses. These having been heartily given the proceedings terminated.

Social Functions in Honour of Lord Lister.

Lord Lister's presence in Edinburgh was taken advantage of by the President and Fellows of the Royal College of Surgeons of Edinburgh to hold an afternoon reception in his honour at Surgeons' Hall. The invitations bore that it was "to meet the Right Honourable Lord Lister." Mr. Chiene, the President of the College, received the guests, while behind him stood Lord Lister and behind them the Vice-Presidents and other officials. The hall was crowded by members of the profession and their wives from the city and its neighbourhood, while many prominent men from Glasgow were also present.—The Lord Provost gave a dinner in his lordship's honour, while the Residents' Club had arranged their dinner for the following day so that he might be their guest also.

A Chair of Public Health for Edinburgh University.

The University Court of the University of Edinburgh has received the order of Her Majesty in Council declaring her approbation of the ordinance of the Scottish Universities Commissioners that a Professorship of Public Health and Sanitary Science be instituted in the University, the chair to be called "The Bruce and John Usher Chair of Public Health." The court in which the patronage of the chair is vested intends to make the appointment on Monday, July 18th next. The court has learned with great satisfaction that through the munificence of a benefactor of the University a sum sufficient to build and equip a laboratory and class-room in connexion with the chair is to be placed at the disposal of the Court.

June 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The City of Dublin Hospital.

THE sixty-sixth report of this institution has just been issued and includes an account of the new Drummond Wing which was opened in the beginning of the year for the treatment of patients suffering from infectious diseases. The building is completely detached from the main hospital, has a separate entrance, and is officered by a staff of nurses and probationers who reside in it.

A Catholic University in Ireland.

With the object of supporting the claim for a Catholic University in Ireland Mr. Dillon, M.P., intends to apply to the House of Commons for a return giving the names and numbers of matriculated students of the Royal University of Ireland who, in the years 1893-94-95-96-97 respectively, passed any of the University examinations in arts, medicine, or law from any of the Queen's Colleges, or from any other college in which the Fellows of the University

are required by the Senate to teach or from any college or medical school for men or women from which a total number of at least twelve matriculated students have presented themselves for the examination of the University during the year; the return to include also a list of the honours obtained and other matters connected with the Royal University of Ireland and its teaching staff.

The late Mr. O'Grady.

The oil paintings and library of the late Mr. O'Grady of Merrion-square, Dublin, are about to be sold by auction on the 22nd inst. and following day.

A Medical Coroner for Limavady.

The election of a coroner for Limavady took place at that town on June 16th. Both the candidates were medical men, Dr. B. Lane and Mr. J. C. Lynd. The franchise was the ordinary Parliamentary, but the system of voting was open and both candidates had conducting agents and a large staff of assistants. The candidates in these elections are allowed to use vehicles freely and to pay the expenses of electors. The contest was very keen and special trains were run on the railway lines to and from Limavady to carry voters. The following was the result of the poll, as declared on June 18th: Dr. Lane, 1141; Mr. Lynd, 1035; so that the former was elected by a majority of 106.

June 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Ophiasis of Celsus.

AT the meeting of the Society of Dermatology and Syphilography held on June 9th M. Sabouraud drew attention to "ophiasis," an alopecia peculiar to children. This disease makes its appearance almost invariably during early childhood, and is characterised by an alopecial spot situated either in the middle line of the occiput or by two lateral and symmetrical patches. It spreads along the edges of the hairy scalp, which it surrounds with a bald border some two or three fingers in breadth. It may occasionally commence at the forehead or the temples. The disease spreads irregularly, leaving isolated patches of hair intact upon the surface of the bald places. Sometimes total baldness results and the disease usually lasts eighteen months. Spontaneous recovery results at puberty in the vast majority of cases, but the disease sometimes returns in adult life or the recovery may be incomplete with persistence of the original bald patch upon the occiput. The hairs along the edge of the diseased area are atrophied and show a series of knobs and constrictions; they break at the level of a knob and this fracture leaves the broken end of the hair in a brush-like form. No specific microbe has been discovered and the symmetrical disposition of the patches points rather to a nervous origin. It is not contagious and an hereditary tendency has been noticed in only a very few cases. The best treatment is by using revulsives and vesicating agents, but epilation of the hairs at the edges of the diseased patches is of no good. The complaint has nothing in common with the seborrhœic alopecia of Bateman, for this latter is never seen before puberty, is contagious, occurs in round patches indifferently situated and is always accompanied by its proper microbe. The infantile form, however, was described long ago by Celsus in his usual masterly fashion and without doubt the best name for it is the old one of "ophiasis."

Transport of the Sick and Insane.

The Municipal Council has just been discussing the following proposals which were laid before it by M. Chassaigne Goyon: an ambulance carriage is to be kept in every one of the fourteen Paris hospitals, which are connected by telephone with the *mairies*, the police and ambulance stations, the look-out station, the principal druggists' shops, the chief factories, and the large builders' and engineers' yards. This carriage shall be ready to start at any moment of the day or night and shall be accompanied by one or two stretcher-bearers taken from the staff of the hospital, to whom a special grant shall be given for every attendance. A special course in first aid to those suddenly taken ill in the street or who have met with an accident shall be organised by the administration. A certain number of *gardiens de la paix* in every *arrondissement* shall be told off to undergo this course. Their duty shall be to remove the sick or wounded by means of stretchers, supposing that the ambulance carriage shall be detained, to the nearest hospital, such stretchers being taken from the police-station. A special grant is allowed for every journey. A closed-in vehicle fitted for the transport of furious maniacs is to be kept at the infirmary of the Police Prefecture. It is to be at the disposal of the police commissaries whenever they shall think it necessary and it can be summoned by telephone. Two attendants skilled in the management of dangerous lunatics will accompany this vehicle and will have with them a strait jacket.

The Diphtheria of Wounds.

At the meeting of the Biological Society held on June 11th M. Maurel and M. Rispail reminded the society that the older surgeons applied the name of diphtheria or *pourriture d'hôpital* to certain pseudo-membranous exudations occurring on the surface of wounds and accompanied by similar false membranes on the tonsils. M. Maurel and M. Rispail recently came across an analogous case in a patient who had undergone the radical cure of hernia. On the day of the operation the temperature rose to 39° C. (102·2° F.); the day after the operation it reached 40° C. (104° F.). The wound was opened up and found to be suppurating freely. Tubes of serum sown with some of the pus collected from the wound rapidly became filled with a bacillus presenting all the characteristics of the bacillus of diphtheria. When inoculated into a guinea-pig it killed it in forty-eight hours with the characteristic lesions. Bouillon cultures filtered through porcelain gave a not very active toxin, for it did not kill a guinea-pig in a smaller dose than $\frac{1}{10}$ c.c. A guinea-pig which had been immunised with Roux's serum and injected with $\frac{1}{2}$ c.c. of this toxin remained unaffected. The patient was treated with both the serum of Roux and the serum of Marmorek and the wound rapidly improved. Cicatrisation occurred at the normal rate and the temperature fell. In the false membranes, which were examined at different times, the bacillus of diphtheria was invariably found. It is considered, therefore, that the Klebs-Löffler bacillus is one of the pathogenic agents in the production of *pourriture d'hôpital*.

Radiography of Arteries and of Extra-uterine Pregnancy.

At the same meeting of the Biological Society M. Turbert showed some radiographs, the first of which, taken from a dead body, showed clearly the radial and ulnar arteries, and the course of these arteries could be followed even where their radiographic shadow was superimposed upon that of the bone. The vessels had not been injected. The second plate was taken from the foot of an old man. The anterior tibial artery could easily be seen and followed throughout the greater part of its course. These plates are the first where the shadow of the uninjected artery has been obtained. M. Turbert also obtained some months ago a radiograph of a young woman, about twenty-five years of age, who had been sent to the hospital with a diagnosis of extra-uterine pregnancy. He was able to confirm this diagnosis in opposition to the opinion of some of his colleagues, who considered that she was suffering from either a hæmatocele or a growth. The radiograph showed clearly the presence of a fœtus of about five or six months, and the head and body and lower limbs were clearly shown upon the plate.

June 21st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Syphilitic Inoculation in Medical Men.

ONE of the dangers incidental to medical practice formed the subject of a paper read a short time ago before the Medical Society of Bonn by Dr. Brandis, formerly a well-known practitioner in Aix-la-Chapelle. Among his patients in that city there were a considerable number of medical men who had contracted syphilis either while performing surgical operations or while making vaginal or rectal examinations in syphilitic cases. In ten instances they contracted the disease in its most malignant form. The place of infection was invariably the finger-tip and it was remarkable that the disease, after an incubation period of four weeks, developed in an exceedingly rapid way. The ulceration on the finger became phagedænic and suppuration of the axillary glands, deep ulceration of the palate or the skin, and necrosis of

the bones quickly ensued. There was also fever of a septic character which sometimes lasted several months. Notwithstanding these serious symptoms complete recovery followed mercury and iodine treatment. In every instance the diagnosis was made very late, which appeared rather strange in view of the fact that the patients were medical men and had consulted practitioners of recognised standing. The diagnosis, indeed, was far from easy, for the primary ulcers on the finger as a rule did not show the characteristic induration, and the patients themselves were slow to acknowledge the possibility of syphilitic infection, being generally of opinion that their symptoms were due to some septic or tuberculous inoculation to which they had also been exposed. In this way it happened that anti-syphilitic treatment was commenced rather late. One of these sufferers went to Aix-la-Chapelle after having made a journey to the Cape of Good Hope by the advice of his medical attendant, the effect of which was that he became worse instead of better; another had been sent to an Alpine health resort; and a third, who had become seriously ill during the journey home, happened to stop at Aix-la-Chapelle, where the nature of his illness was at last ascertained. Four of the ten patients are still alive at periods varying from five to twenty-five years after the infection. Five died either from enteric fever, pneumonia, or pulmonary tuberculosis; and one who had waited an exceedingly long time before consenting to anti-syphilitic treatment died from a cerebral affection which was reported to be due to arteriosclerosis. Dr. Brandis concluded from his experiences that medical men ought to be very careful when performing operations and making examinations in cases which are either known or suspected to be syphilitic; he himself had always used gloves at such times. He also pointed out the advantage of early diagnosis, especially in serious cases, where anti-syphilitic treatment ought to be commenced as soon as possible. Fever and prostration should not be regarded as a contra-indication of mercurial treatment.

June 20th.

Obituary.

GEORGE VERNON BLUNT, M.D. ABERD., M.R.C.S ENG.

DR. BLUNT died at Birmingham on June 10th, in the seventy-sixth year of his age. The son of Alderman Blunt, who was for some years a member of the Birmingham Town Council, Dr. Blunt never took any part in public affairs, nor was he connected with any of the hospitals or public institutions. Possibly a defect in one limb which caused him to be lame and made walking uncomfortable and painful accounted for this. Still he exercised an important influence and possessed a wide reputation, more especially in medico-legal cases and in nervous disorders. He was educated at Queen's College and did not take any qualification until 1859, when he became a Member of the Royal College of Surgeons of England and M.D. of Aberdeen. His professional attendance upon the late Cardinal Newman and the confidence he possessed among the authorities of the Oratory at Edgbaston gave him a large *clientèle* in that direction. Shrewd and sagacious as an observer of human nature and character, reticent, and exclusive in his friendships, Dr. Blunt never took any prominent part in professional amenities or mixed with his brethren in any movements of a corporate or private kind. His life was a quiet and uneventful one, pursued with a reserve which was appreciated by those who consulted him but which did not tend to make his abilities so well known or so markedly advantageous to the medical profession as they otherwise might have been.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Levieux, honorary medical officer of the Bordeaux Hospital.—Professor F. J. Trier, a Copenhagen physician.—Dr. David W. Yandell, Professor of Clinical Surgery in the University of Louisville.—Dr. Charles Van Everbroeck, late President of the Medical *Cercle* of Turnhout, Belgium. He was very active in attending the wounded in the war of 1870 and many French and German soldiers have cause to remember him with gratitude.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having previously passed the necessary examinations, and having now conformed to the by-laws and regulations, have been admitted Members of the College:—

John Hamilton Crawford, M.B., B.S. Edin., Edinburgh University; Robert Henry Strong, M.B., B.S. Melb., Melbourne University and Kings College Hospital

UNIVERSITY OF CAMBRIDGE.—At the congregation on June 16th the following degrees in medicine and surgery were conferred:—

M.D.—Edward Henry Douty, King's; Hugh Kerr Anderson, Caius; John Brian Christopherson, Caius; Joshua James Taylor, Emmanuel.

M.B. and B.C.—John Beuzeville Byles, King's; Henry Goodridge Deller, Trinity; John Edward Sandilands, Trinity; Frederick James Watson, Trinity; Edward Ernest Prest, St. John's; Percy William George Sargent, St. John's; Henry Stringfellow Pendlebury, Pembroke; Thomas Betteridge, Caius; William Ernest Heilborn, Caius; Arthur Cyril Ransome, Caius; John Lamplugh Kirk, Christ's; Clement White, Christ's.

M.B. only.—Henry Ernest May, Clare; Frederick André Mills, Clare.

SOCIETY OF APOTHECARIES OF LONDON.—In June the following candidates passed in the subjects indicated:—

Surgery.—J. C. Bell, Guy's Hospital; F. Elias, London Hospital; and J. Prentice, Liverpool.

Medicine.—J. S. Barnes, St. Thomas's Hospital; P. D'E. Burrell, St. George's Hospital; F. Ede, Royal Free Hospital; and J. M. Edwards (Section I.), and J. W. King (Section I. and II.); Charing-cross Hospital.

Forensic Medicine.—J. S. Barnes, St. Thomas's Hospital; P. D'E. Burrell, St. George's Hospital; F. Ede, Royal Free Hospital; J. M. Edwards, Charing-cross Hospital; D. Hamilton, Royal Free Hospital; and J. W. King, Charing-cross Hospital.

Midwifery.—C. J. Barnes, King's College Hospital; W. T. Davies, London Hospital; F. Ede and D. Hamilton, Royal Free Hospital; and J. W. King, Charing-cross Hospital.

The diploma of the Society was granted to the following candidates: J. S. Barnes, J. C. Bell, and J. Prentice.

FOREIGN UNIVERSITY INTELLIGENCE. — *Bonn:* Dr. H. Graff has been recognised as *privat-docent* of Surgery, and Dr. Walter Kruse has been promoted to an Extraordinary Professorship of Hygiene.—*Bologna:* Dr. Agatino Barbera has been recognised as *privat-docent* of Experimental Physiology, and Dr. Ettore Bidone as *privat-docent* in Midwifery and Gynæcology.—*Bordeaux:* Dr. Chavannaz has been appointed after a public competition *professeur agrégé* of Surgery, and Dr. Fieux has been similarly appointed *professeur agrégé* of Midwifery.—*Göttingen:* Dr. Reichenbach has been recognised as *privat-docent* of Hygiene.—*Innsbruck:* Dr. Adolf Posselt has been recognised as *privat-docent* of the Diagnosis and Therapeutics of Internal Diseases.—*Iurieff (Dorpat):* Dr. Chirvinski, Extraordinary Professor of Pharmacology, has been promoted to the Ordinary Professoriat.—*Lille:* Dr. Cousin has been appointed after public competition *professeur agrégé* of Anatomy, and Dr. Gaudier has been appointed after public competition *professeur agrégé* of Surgery.—*Lyons:* Dr. Nové-Josserand and Dr. Bérard have been appointed after public competition *professeurs agrégés* of Surgery.—*Montpellier:* Dr. Imbert has been appointed after public competition *professeur agrégé* of Surgery.—*Nancy:* Dr. Bouin has been appointed after public competition, *professeur agrégé* of Anatomy, and Dr. P. André has been appointed after public competition *professeur agrégé* of Surgery.—*Naples:* Dr. Angelo Lamari has been recognised as *privat-docent* of Medical Pathology; Dr. Carmelo Bruni as *privat-docent* of Surgical Pathology; Dr. Francesco Del Greco as *privat-docent* of Psychiatry; and Dr. Andrea Baroni as *privat-docent* of Midwifery and Gynæcology.—*Paris:* Dr. Launois has been appointed after public competition *professeur agrégé* of Anatomy; Dr. Langlois has been similarly appointed *professeur agrégé* of Physiology; and Dr. Legueu, Dr. Mauclaire, and Dr. Faure have been appointed after public competition *professeurs agrégés* of Surgery. Dr. Lepage and Dr. Wallich have been similarly appointed *professeurs agrégés* of Midwifery.—*Philadelphia (Medico-Chirurgical College):* Dr. E. R. Kirby has been appointed Professor of Genito-Urinary Diseases.—*Rome:* Dr. Gelosio Chiucini has been recognised as *privat-docent* of Laryngology; Dr. Roberto Magnanimi as *privat-docent* of Forensic Medicine; Dr. Giuseppe Pacinotti as *privat-docent* of Surgical Pathology; and Dr. Geronzi as *privat docent* of Laryngology.—*Toulouse:* Dr. Bardier has

been appointed after public competition *professeur agrégé* of Physiology, and Dr. Cestan and Dr. Banby have been appointed after public competition *professeurs agrégés* of Surgery. Dr. Andebert has been similarly appointed *professeur agrégé* of Midwifery and Dr. Verdun *professeur agrégé* of Natural History.—*Tübingen:* Dr. Hofmeister has been promoted to an Extraordinary Professorship of Surgery.—*Vienna:* Dr. Moritz Heitler and Dr. R. von Limbeck, *privat-docenten* of Internal Medicine, have been granted the title of Professor; Dr. L. von Frankl-Hochwart, *privat-docent* of Neurology, Dr. M. von Zeissl, *privat-docent* of Dermatology, Dr. A. Felsenreich, *privat-docent* of Midwifery and Gynæcology, and Dr. F. Frühwald, *privat-docent* of Children's Diseases, have also been granted the title of Professor.—*Warsaw:* Dr. Kolosoff has been promoted to an Ordinary Professorship of Histology and Embryology. Dr. Ushinski has been promoted to an Ordinary Professorship of General Pathology.

DEATH OF MR. JOHN JOHNSTONE OF LIVERPOOL.—The death of Mr. John Johnstone, L.R.C.P., L.R.C.S. Edin., occurred on June 14th under very distressing circumstances, he having been found dead in his consulting-room on the morning of that day. In close proximity to the couch upon which the deceased gentleman was found lying was an empty bottle which had contained hydrocyanic acid. The medical evidence at the inquest was to the effect that death had resulted from poisoning by prussic acid, which had probably been mistaken for a solution of morphia which the deceased had been in the habit of administering to himself to allay the pain caused by the passage of gall-stones. A verdict of "Death through misadventure" was returned by the coroner's jury.

PRESENTATIONS TO MEDICAL MEN.—On the distribution of certificates and badges to the St. John Ambulance Class of Abersychan and Talywain, Mon., on May 26th, Mr. John W. Mulligan, M.D. Irel., of Abersychan, was the recipient of a silver-mounted driving whip as a recognition of his instructions to the class.—Mr. P. J. Finigan, L.R.C.P., L.R.C.S. Irel., has been presented with an address and service of plate by his friends in the dispensary district of Carlingford Cooley, county Meath, and neighbourhood, on the occasion of his marriage.—On June 2nd, at a meeting of the ambulance class for Braemar and district held in the Victoria Hall, Auchindryne, Mr. James Noble, M.D. Aberd., of Braemar, the lecturer, was presented with a driving whip and also with a travelling rug having Macduff tartan on one side and Farquharson on the other, thus representing the two estates to which the class belonged.—On June 4th the members of the Curzon-street division of the St. John Ambulance Association, Birmingham, presented Mr. W. A. Loxton, F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng., of Birmingham, the honorary instructor of the class, with a stationery cabinet, as a mark of respect.—Mr. D. M. Forbes, L.R.C.P., L.R.C.S. Edin., the medical superintendent of the Shoreditch Infirmary, was the recipient on June 6th of several presents on retiring into private life. On that day, as many of the patients as were able assembled in the open air and presented him with a "literary machine" (reading-desk, lamp, and table combined). A patient, Thomas Landon, who has been under Mr. Forbes's care for many years, handed to him a gilt framed testimonial, on which the good-will of the patients was expressed in the form of an acrostic. Later in the evening the nursing staff and officers assembled at the Nurses' Home to wish him God-speed and to present him with a silver salver and tea and coffee service in recognition of the good work he had successfully carried on at the infirmary for the past thirty years.—Mr. John E. H. Davies, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of Wrexham, North Wales, has been presented with a silver-mounted walking-stick, suitably engraved, by the members of the Great Western Railway class of the St. John Ambulance Class as a mark of appreciation of his services as honorary lecturer.—Mr. M. Bryson, L.F.P.S. Glasg., of York, was presented, on June 16th, by the members of the Midland Railway Engineer's Ambulance Class at Denaby, in connexion with the St. John Ambulance Association, with a case of razors, as a token of appreciation for his gratuitous lectures for the past four years.—Mr. R. Hensleigh Walter, M.B., C.M. Edin., of Stoke-under-Ham, Somerset, has been the recipient from the members of the Tintinhull Medical Club, on the occasion of his marriage, of a handsome entrée dish and preserve stand.

THE NORTH LONDON HOSPITAL FOR CONSUMPTION has received a donation of £1000 from "R. S. P.," per Canon Fleming, the rector of St. Michael's, Chester-square, to endow a bed in the hospital.

TYPHOID FEVER AT CAMBORNE.—The Camborne District Council have instructed their clerk to write to the water company informing them that the Council hope such compensation will be paid as will meet the extraordinary expenditure incurred.

AN EXPENSIVE CASE OF SMALL-POX.—At the meeting of the Bideford board of guardians held on June 14th it was stated that a recent case of small-pox at Appledore had cost the Northam Council £94 and there was more to pay.

MR. CHARLES GRIER, M.R.C.S., died at St. Ives, Cornwall, on June 11th. For many years the deceased had an extensive practice in Canada and about eight years ago went to St. Ives, where he soon made many friends. Mr. Grier, who was seventy-six years of age at the time of his death, leaves four sons, one of whom is a member of the profession. Mr. Grier was very popular at St. Ives and much regret is felt there at his death.

ASSAULT ON A MEDICAL MAN.—Recently at the Cheltenham police-court two men were charged with assaulting Mr. J. F. Bevan, L.R.C.P. Lond., M.R.C.S. Eng., and Mr. Brown. On June 4th one of the defendants having struck a woman down Mr. Bevan, who was passing along the street, stopped to see if he could be of any assistance, whereupon he received a blow on the lower jaw which knocked him down, and whilst on the ground he was kicked. Mr. Brown went to his assistance and he also was knocked down. One of the prisoners was sentenced to six weeks' imprisonment with hard labour and the other was fined 28*s*.

A NEW FORM OF TESTIMONIAL.—We are glad to be able to report an interesting variant in the matter of testimonials. On June 8th a meeting was held at the Castle, Ryde, for the purpose of presenting to Dr. A. G. Davey, the senior medical officer of the Isle of Wight Infirmary, a cheque for £1000 to endow a cot in the children's ward of that institution. The following inscription is to be placed upon the cot: "The Alexander Davey Cot.—This cot was named and endowed in perpetuity by the friends of Alexander George Davey, M.D., in recognition of his great professional skill and of the devotion and sympathy with which he has ever sought to alleviate pain and sickness. 1898." The presentation was made by Colonel Cradock, J.P., who gave a short history of the inception of the scheme and alluded to the fact that it had been intended to make the presentation at the end of February. It was, however, found necessary to postpone the function and therefore they had waited until that very appropriate day, Dr. Davey's birthday. Dr. Davey, in reply, thanked all his friends in the warmest way. No merely personal gift could, he said, have given him such pleasure. He had been thirty years on the staff of the hospital and the one thing he wanted now was to live long enough to see the hospital take its proper place as a county hospital and as a training school for nurses. The rector of Whippingham, on behalf of those living outside the borough of Ryde, wished to congratulate Dr. Davey, to wish him "many happy returns of the day," and to hope that he might be spared to them for many years to come. The proceedings terminated with a vote of thanks to Colonel Cradock and the members of the committee.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Habitual Inebriates Bill.

WHEN this measure goes before the Grand Committee on Law Mr. Hobhouse proposes to move the insertion of words enabling county and town councils, singly or in combination, to contribute to the establishment or maintenance of retreats for inebriates.

Lunacy Bill.

On Tuesday, June 21st, the Lunacy Bill passed the Standing Committee of the House of Lords. Practically the only point in the Bill discussed was the provision requiring local authorities to grant

superannuation allowances to their officers and servants in lunatic asylums, and though an amendment was proposed, it received very little support.

HOUSE OF COMMONS.

THURSDAY, JUNE 16TH.

The Inspection of Match Factories

Mr. Tennant asked the Home Secretary whether he was aware that in match factories provisions for the health of the workers largely turn upon questions involving structural alterations which by the regulations are *ultra vires* for the women inspectors; whether, when visiting a match factory, a woman inspector has no direct power under Special Rules Nos. 2 and 3 to require the separation of the dangerous from the non-dangerous departments by the erection of a door or an addition to washing appliances by the erection of a basin and tap; and whether such matters must be referred by her to the district inspector.—Sir M. White Ridley replied: Structural questions are undoubtedly very important. Any such questions, other than questions of sanitary accommodation for females, which appear to the lady inspector to require attention are referred by her to the district inspector. It then becomes his duty to take immediate steps to secure the enforcement of the law or of the special rules, to inform the lady inspector of the result, and to forward to headquarters her communication, with a statement of the steps he has taken upon it. This practice applies to all factories, whether special rules are in force or not, and the matters mentioned in the question would in the ordinary course be dealt with in this way.

FRIDAY, JUNE 17TH.

The Army Medical Service.

Captain Norton asked the Under-Secretary of State for War if he could state whether there were sufficient army medical officers in the United Kingdom to meet the full requirements of two army corps upon a war footing without denuding the military medical establishments of the United Kingdom of their entire executive staff and thus disorganising the Army Medical Service both at home and abroad.—Mr. Powell Williams, replying for Mr. Brodrick, said that the Army Medical Staff when at its full strength was fully adequate to meet the requirements of two army corps. Recently the staff had not been at full strength, but in case of general mobilisation there was a reserve of 268 medical officers who could be called upon.

Queen Charlotte's Hospital and Vaccination.

Mr. Channing asked the President of the Local Government Board whether his attention had been called to the case of Elsie Boon, of 116, Euston-road, who was vaccinated when only five days old at Queen Charlotte's Hospital; was he aware that the child's arm was in so serious a state that it had to be treated by Dr. Thompson at the parish dispensary in Clarendon-square, St. Pancras, for the results of vaccination, a few days after leaving the hospital; whether the Local Government Board had given its assent to the conditions under which mothers are admitted to Queen Charlotte's Hospital, which compel the child to be vaccinated within fourteen days of birth; whether he was aware that the average number of children born in the hospital is about 1100; whether the fees payable for the successful vaccination of these children go to the medical staff or to the funds of the hospital; and whether, in the Bill now before Parliament, he would introduce words forbidding compulsory vaccination in hospitals immediately after birth and placing such children on the same footing as other children for whom the period of twelve months is to be allowed.—Mr. Chaplin replied: I have made inquiry as to the case referred to. The child was vaccinated on the sixth day after birth at Queen Charlotte's Hospital and left the hospital quite healthy eight days afterwards. The mother took the child to a tenement house and some five days afterwards paid a single visit to the district medical officer in consequence of an extension of the ordinary areola around the vesicles. I am informed that the case never was serious, that the excess of redness rapidly disappeared and that the child became and remains perfectly well. The conditions under which mothers are admitted to the hospital in question are not subject to the jurisdiction of the board. But I am informed that although vaccination is referred to in a notice as a condition of admission to the hospital, no mother who objects to the vaccination of her child before leaving the hospital is ever compelled to have it vaccinated. The average number of children born at the hospital during the last three years is as stated. The fees for vaccination are received by a member of the hospital staff who acts as public vaccinator. The hon. Member has given notice of an amendment to the Vaccination Bill for which, I think, there is a good deal to be said, to the effect suggested by him, and my views will be stated when the amendment is moved.

The Administration of the Food and Drugs Act.

General Laurie asked the President of the Local Government Board whether he had received a communication from the vestry of Paddington relative to the failure to obtain a conviction against the proprietor of certain stores for selling as coffee a mixture found on analysis to contain 50 per cent. of chicory, and as butter a mixture containing 88 per cent. of margarine; whether he had been informed that the summonses were served by the warrant officer of the Marylebone Police-court, leaving them at the shop, and that the magistrate decided that this was not a service in accordance with Section 20 of the Sale of Food and Drugs Act, 1875, and Section 10 of the Amendment Act, 1879; whether he had been informed it had been ascertained that the defendant has no address in this country other than his stores in various districts and that the same difficulty was experienced in 1896 in connexion with a purchase of coffee from the same defendant, in the same shop, and which coffee was found to be adulterated with 60 per cent of chicory; and whether he would make such provision in the new Bill it was proposed to introduce or would introduce such amendments in the present Act as would enable local authorities who are anxious to carry out the law to enforce it against those who so persistently sell adulterated food products.—Mr. Chaplin replied: I have received a communication from the Vestry of Paddington containing the statements referred to in the question of my hon. friend and I am considering what amendments of the law may be desirable in view of the circumstances.

The Crypt of St. George the Martyr, Southwark.

Sir Charles Cameron asked the Home Secretary whether he was yet in a position to describe the purport of the Inspector of Burials' report upon the state of matters alleged to exist in the church and crypt of St. George the Martyr, Southwark, and whether he proposed to take any action in connexion with it.—Sir M. White Ridley said, in reply, that the report disclosed a state of affairs which he was satisfied constituted a sanitary danger and he had issued a notice to the churchwardens under Section 23 of the Burial Act, 1857, calling upon them to remove the human remains from the crypt.

Lead Poisoning in the Potteries.

Mr. Tennant asked the Home Secretary whether his attention had been called to the report of the adjourned inquest upon the body of Mary Ann Poole, supposed to have died from lead-poisoning; whether, in view of the very unsatisfactory nature of the medical evidence, he would direct that the body be exhumed and a chemical analysis be conducted; and whether he was now prepared to lay before the House the report of the certifying surgeon in this case.—Sir M. White Ridley replied: My attention has been called to this case. I regret that the medical evidence was inconclusive as to the origin of the epilepsy which was the immediate cause of death. Exhumation is, however, I fear out of the question. This course is never taken except where there is a suspicion of foul play or in very special cases at the request of relatives. I have received the report of the certifying surgeon. Like other reports of the kind it contains confidential information which it would be detrimental to make public. The facts bearing on the cause of death appear to have fully come out at the inquest, at which the factory inspector of the district was present. On that point the report throws no fresh light.—Mr. Woodall asked whether it was not stated in the course of the medical evidence that there were no symptoms in this case which were not attributable to other causes than lead poisoning.—Sir M. White Ridley said he was aware that there were certain marks in the case of death from epilepsy due to lead poisoning which were not present on this occasion.—Mr. Woodall asked whether the jury did not decline to attribute the death to lead poisoning.—Sir M. White Ridley said that was the case.—Sir Charles Dilke asked whether they did not also decline to take an opposite course.—Sir M. White Ridley said that was so and that was what he meant when he said that the verdict was inconclusive. If there were any object to be gained he would be prepared to make further inquiry, but he saw no object.

MONDAY, JUNE 20TH.

Proposed Factory Legislation.

Sir M. White Ridley introduced a Bill to amend the Factory and Workshops Acts, 1878 to 1895, as to the time of employment of women and young persons in processes necessary for the preservation of perishable materials. He explained that in the main the Bill provided exemptions from the Factory Acts for the fish-curing trade connected with Scotland and for creameries in Ireland, both of which were liable to suffer at certain seasons if work were prohibited. The Bill repealed all existing exemptions and enabled the Secretary of State to grant exemptions by means of orders which were strictly defined and which would be laid before Parliament and made subject to the vote of the House. The measure applied only to the hours of daily labour and affected women and young persons, but in no circumstances children, and its scope was confined to processes where exemption was absolutely necessary to preserve perishable materials from destruction.—Sir Charles Dilke took exception to the Bill as a relaxation of factory legislation and announced that he would oppose it on that and other grounds.

Before the close of the sitting, Sir Charles Dilke gave notice that on the second reading of the Bill he would move: "That this House regrets that it should be proposed to amend the Factory Acts by relaxing the law as to fish curing without dealing at the same time with lead processes in the potteries, with the use of phosphorus, and with the failure of the sweated districts clause."

Dangerous and Injurious Employments.

On the motion of Mr. Hedderwick a Bill was introduced "to extend the provisions of the Workmen's Compensation Act, 1897, to injuries to health and loss of life suffered by persons employed in certain dangerous and injurious occupations."

THE VACCINATION BILL.

PROCEEDINGS IN THE GRAND COMMITTEE.

The Grand Committee of the House of Commons on Law met again on Friday, June 17th, with Sir Henry Campbell Bannerman in the chair, for the consideration of the Vaccination Bill introduced and promoted by the Government.

Discussion was resumed upon the amendment moved by Sir Walter Foster at the previous sitting to insert in Clause 1 of the Bill the following words, viz.:—"2. Where a child is by this Act required to be vaccinated within a certain time (hereinafter called the appointed time) the parent or person having the custody of the child may, not less than two months before the expiration of the appointed time, make in the prescribed form a statutory declaration of conscientious objection to the vaccination of the child, and if the statutory declaration is within seven days after its date delivered to the registrar of births for the district in which the child resides the registrar shall register the same, and shall, if required, deliver to the parent or other person making the declaration a certificate of such registration, and shall also send a copy of the certificate to the public vaccinator of that district, and thereupon an order shall not be made or proceedings taken with reference to the non-vaccination within that appointed time of the child mentioned in the certificate. 3. The parent or other person registering a statutory declaration under this section shall, if he requires a certificate of such registration, pay to the registrar the prescribed fee for a certificate of registration."

Mr. Logan, speaking as one who represented people with conscientious objections to vaccination, appealed to the committee to modify the Bill in the manner suggested by the amendment and by the recommendation of the Royal Commission on Vaccination. In one of his speeches the President of the Local Government Board had spoken of there being only one prosecution for each child, but he (Mr Logan) was advised that there might be three prosecutions and the total expenses and costs to the parent might be as much as £4 per child. This Bill, he said, did not pretend to enforce compulsory vaccination, for it contained a provision whereby those who suffered a certain amount of inconvenience and persecution would not be troubled any

more. That was not enforcing compulsory vaccination; it was merely punishing a man for conscience' sake. It would punish the well-to-do just a little, but the poor it would punish cruelly and in some cases utterly ruin. The Royal Commission in their report said that there would have been more persons vaccinated if the law had been enforced with more discretion. With that he absolutely agreed. Men in his constituency (Harborough Division of Leicestershire) had been prosecuted 17 times and a man was sold up the other day and he would be sold up a hundred times before he would have his child vaccinated. Persistent prosecutions which were contemplated under this Bill were certain to arouse hostility throughout the length and breadth of the country and they would create sympathy with the prosecuted and lead to a further defiance of the law and he appealed to the Government in the interests of law and order if nothing else to accept this amendment. If they did not and the Bill went to the country in its present form the troubles and difficulties which vaccination officers and others who tried to enforce vaccination had experienced in the past would be mere child's play to what they would experience in the future.

Mr. Carlile said he was a believer in the efficacy of vaccination and had perfect faith in the safety of calf lymph and he was prepared to support this amendment. His wish was that vaccination should be increased and made more popular and he was perfectly certain that the only way to do that was to kill the present agitation against it. He had been at some trouble to find out the wishes of the medical profession in his own constituency (North Bucks) and with one exception they believed in an amendment such as that now proposed. Personally he should very much like to see the promoters of the Bill taking a stronger line altogether. In the elections of 1892 and 1895 the question of vaccination was often raised and on both occasions he gave an evasive reply for the simple reason that it was the only thing to do. His opinions were not very strong then and he thought it better to wait until the Royal Commission reported. He was not a medical man and could not claim the knowledge of the subject which the Royal Commission had and therefore he gave this reply. Now the Royal Commission had reported and having read the report and in fulfilment of his pledge he was going to support the recommendation of the Royal Commission which said most emphatically that conscientious objection should be allowed.

Sir William Priestley said that while in this matter he was very much in accord with Sir Walter Foster he regretted he could not support his amendment. They were both most anxious to promote vaccination by every means in their power but he took a somewhat different view from him with regard to this matter. All those who knew anything about this subject were of opinion that a very large number of those—by far the largest number of those who now allowed vaccination to go by default—were not conscientious objectors but parents who were careless and heedless of their children. There was no doubt about this, and it was emphasised in the report of the Royal Commission. He took it that the trend of the opinion of the Commission was not that penalties should be abolished altogether but that repeated penalties which were so irritating should be abolished. His view was that penalties should not be abolished altogether, but after the first penalty which would whip up all the indifferent parents they, at any rate, should try to disarm all those who had conscientious objections by not pursuing the penalties further. The object, of course, was to make vaccination more efficient. He was very much in sympathy with many of those parents who really believed that if their children were injured by vaccination it was very hard indeed to impose it upon them. He believed they were absolutely wrong. He thought they had been misled by agitators. The whole scientific world, so far as its best members were concerned, was unanimously in favour of vaccination. On one occasion, when Oliver Cromwell was extremely angry with the Assembly in Edinburgh, he said: "I beseech you by the mercy of God to consider that you may be mistaken." He (Sir William Priestley) would say that to those who were opposed to vaccination, to consider whether it was not possible that they might be wrong in this matter. What he suggested was not that the parent should go scot free after the first penalty was inflicted—that would be illogical; but that after the first one the penalty should be suspended, say, until the child was four years of age, when it was likely to go to school and become a source of danger to other children. He would then give the parent with conscientious objections an opportunity of making a statutory declaration.

Colonel Long moved in the place of "parent or person having the custody of the child" to insert "father of the child, or if the father is dead or the child illegitimate then the mother of the child."

Mr Chaplin intimated in a few words that so far as he was concerned he must oppose both the amendment and this amendment to it.

Sir Charles Cameron said he was extremely sorry to hear this intimation. He was a firm believer in vaccination. He had devoted many years to the study of it and the more he studied the firmer became his belief. He agreed with the Royal Commission that vaccination would have been very much more general had it not been for errors in the administration of the law. The chief of these had been the creation of martyrs. Every martyr who had been created by the operation of the vaccination laws had become the centre of an agitation against them. It had been said that this proposal was illogical, but the whole thing was illogical. The State at the present moment said, "You must vaccinate the child," but if the parent refused the State did not vaccinate the child—it simply punished the parent for not doing what it would not undertake itself. Until very recently repeated penalties were never enforced in Scotland and the consequence was that martyrs had not been created, and until the very latest years anything like organised resistance and agitation against vaccination had been unknown in Scotland. In all the circumstances he thought the amendment of Sir Walter Foster met the case. A number of children might go forth into the world unvaccinated if it were carried, but a vast number did so at present, and the question was whether they would not bring about a better state of things by adopting this proposal than by insisting upon the course which Mr. Chaplain had foreshadowed.

After there had been some discussion among the legal members of the Committee as to the meaning and necessity of Colonel Long's amendment to the amendment Colonel Long agreed to withdraw his proposal altogether.

Colonel Long then moved to substitute for "statutory declaration" the words "declaration before not less than two magistrates in petty sessions or before any of the persons authorised to administer oaths by the Commissioners for Oaths Act, 1889."

This amendment was defeated by 23 to 15 votes and thereafter the Committee resumed the discussion of Sir Walter Foster's amendment as originally proposed.

Mr. Radcliffe Cooke submitted that a great deal too much had been made of the conscientious objectors to vaccination. He believed there would not be one in a hundred of them if it were not for paid agitators who kept instilling in the minds of the ignorant doctrines which in their heart they knew to be false. If they took the case of Gloucester they found that the moment these conscientious objectors saw they were likely to die from small-pox they hurried off to the public vaccinator. He objected to the amendment, believing that if they were to have a law they must have one with some force in it and not one which could be obeyed at pleasure.

General Russell said that as a matter of expediency, purely in the interests of vaccination, he was prepared to urge the Government to accept such an amendment as had been proposed.

Mr. Hazell also spoke in support of the amendment.

Mr. Chaplin said that the Government were perfectly aware of all the difficulties in connexion with this exceedingly thorny question, and it was because he recognised the extent of the feeling in certain classes—feeling which he regarded as to a great extent the result of popular ignorance and the clamour raised upon the question—that he felt it his duty to propose this fresh legislation and to resist the amendment now proposed. It had been stated with perfect truth that this amendment embodied the recommendation of the Royal Commission, although he was bound to say that the members of the Commission were not wholly unanimous on this particular point. There were, however, two considerations which had always weighed with him in this connexion. The first of them was that a very large number of children throughout the country remained unvaccinated at the present moment, not so much from any deep-rooted dislike on the part of the parents to vaccination in itself, but owing largely to their carelessness and neglect to perform their duty. Another consideration was that with the law amended, as he hoped it would be in the future, and with many of the present objections, in which there was great force, to vaccination removed, it was not unreasonable on his part and that of the Government to hope and expect that a better feeling would prevail in the country and that much of the present opposition would vanish. He was willing to make this admission, that when he read and studied the report of the Commission he thought there might be something in their proposal and he was prepared to, and did, most carefully consider it, but later information on the subject had entirely decided him against it. It must be remembered that the Commission reported in 1895 and a good deal had happened since then. A great deal of information bearing on this subject had come to his notice at the Local Government Board which was not before the Royal Commission and which, if it had been, probably would have very considerably modified their views. He begged the Committee to observe what the difference was between the mover of the amendment and himself. They were absolutely at one as to the importance and necessity of vaccination; they were also both agreed as to the great advantages of the new methods by which it was proposed to carry out vaccination; where they differed was as to the best means of accomplishing their common objects. The mover of the amendment believed in objectors being allowed to make a statutory declaration. He (Mr. Chaplin), on the other hand, believed that if that were done in many districts of the country vaccination would become a dead letter altogether. It happened that at the present moment the Local Government Board had some experience of the system advocated in the amendment. It appeared that in the union of Barton Regis, near Bristol, the guardians pending fresh legislation had taken the law into their own hands. Acting, he supposed, on suggestions contained in the report of the Royal Commission these guardians some eighteen months ago elected to issue a circular on their own account to this effect. It set forth that the vaccination officer had informed the guardians that the person addressed had not had his child vaccinated and that the officer had given the usual notice. Having given these and other particulars the circular went on to say: "If you have a conscientious conviction that the vaccination of your child is calculated to do it injury, and will furnish me a declaration to that effect within fourteen days from the date of this letter on a form which you can get from me, and which must be signed by yourself and witnessed by a magistrate, the guardians will favourably entertain your objection." That was to say the guardians would take no further steps in the matter. Now what had been the effect of this action? First, he was informed there was an increasing demand for these forms, a demand made daily, and the result was that parents who had been in the habit of getting their children vaccinated as a matter of course and without mishap of any kind now applied for the forms and had their children vaccinated no longer. Conscientious objectors, as it was described to him, were springing up like mushrooms and whole districts were in danger of remaining unvaccinated altogether. The system only began in 1896 and out of 300 cases reported in default in the last two quarters of 1897 no less than 183 availed themselves of this expedient. He submitted to the Committee with all seriousness that if this was what was being done while the system was illegal, what was likely to be the case if the system were sanctioned and encouraged by the actual passing of a law? Remember this also, that they would have the Anti-Vaccination League ceaselessly working for the great object they had in view—namely, the abandonment of vaccination altogether—everywhere encouraging and assisting and organising conscientious objections by the thousand. What a weapon for evil they would be putting in the hands of this body. If a single board of guardians could accomplish these results illegally in two quarters of a single year, what would be the effect all over the country with the Anti-Vaccination League absolutely unchecked in their operations? The birth population of this country was estimated at 922,000. According to the vaccination returns 150,000 remained unvaccinated in 1895. In 1897 the return had increased to something like 250,000 and at the present moment he did not hesitate to say it was 300,000, or one-third of the entire birth population. He was perfectly aware that with these facts before him he laid himself open to much blame for going so far as he had done in agreeing that repeated prosecutions should not be permitted, but if he were to accept this further demand it would not only be fatal to the future of vaccination, but in his judgment it would be to invite a recurrence, continuance, and repetition of those disastrous epidemics of small-pox which had occurred too frequently all over the country. It had been said that they must abandon compulsion—that

the Royal Commission had killed it. That was a counsel of despair and he refused for a moment to entertain it. Great and beneficent results had been obtained in Germany, small-pox almost having been stamped out. How was it done in Germany? By compulsion; and what Germans had done in Germany surely Englishmen could do in England if they had only the pluck and determination to try and the courage to face popular clamour and ignorance. He hoped that under the scheme of this Bill they would accomplish something of what had been done in Germany and he relied on the patriotism and the courage and the judgment of the Committee to assist him.

Mr. Channing asked why if the President of the Local Government Board had so much belief in Germany he had not proposed the methods of compulsion adopted in that country.

Sir Charles Dalrymple said that in spite of the strong speech of the President he stood by the report of the Royal Commission which he had signed. The state of things in Barton Regis was startling and unsatisfactory, but there was all the difference in the world between the independent action of one board and that which was authorised after careful consideration by an Act of Parliament.

The Solicitor-General (Sir Robert Finlay), speaking against the amendment, said that the proposed declaration would be made with absolute impunity because it would be idle to talk of a prosecution for making a false declaration.

After some further discussion the debate on the amendment was adjourned until the next meeting of the Committee.

The Committee met again on Tuesday, June 21st, and resumed the debate on Sir Walter Foster's amendment, which in the end was lost by 2 votes, 26 voting against it and only 24 in its favour.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BARRS, A. G., M.D. Edin., F.R.C.P. Lond., has been appointed Professor of Medicine, Victoria University (Yorkshire College), vice J. E. Eddison, resigned.

BEATTY, W. J., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Referee under the Workmen's Compensation Act for the County Court District of Stockton-on-Tees, County Court Circuit No. 15.

BILL, J. FRANCIS, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Senior Resident Medical Officer for the London Temperance Hospital, Hampstead-road, N.W.

BONNEY, W. F. V., M.B., B.S., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Chelsea Hospital for Women.

BROWN, W. H., F.R.C.S. Irel., M.R.C.S., of Leeds, has been appointed Medical Referee under the Workmen's Compensation Act, 1897.

CLARK, W. ADAMS, M.D., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

COOKE, G. H., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act for the Birkenhead County Court District.

DENNY, E. B., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer for the Hainton Sanitary District of the Louth Union.

ELLIS, W. H., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 11, Shipley, Yorks.

EVANS, T. H. FENCOTT, M.R.C.S., L.R.C.P., has been appointed Medical Superintendent for the Small-pox Lazaretto at Rietfontein, South Africa.

FAWCETT, HENRY, M.D., B.S. Durh., has been re-appointed Medical Officer of Health by the Middlesbrough Rural District Council.

FRASER, P., M.D. Edin., has been re-appointed Medical Officer of Health by the Llanrwst Urban District Council.

FURNESS, T., L.D.S., F.P.S. Glasg., has been appointed a Dentist for the Industrial Schools by the Chesterfield Board of Guardians.

GIBB, R. S., M.B., C.M. Aberd., has been appointed Medical Officer of Health for Berwickshire.

GOLDING-BIRD, C. H., M.B. Lond., L.R.C.P., F.R.C.S., has been appointed an Examiner in Surgery at Cambridge University.

HENCHLEY, A. R., L.R.C.P.E., L.R.C.S.E., L.F.P.S. Glasg., has been appointed Junior House Surgeon for the General Dispensary, Nottingham.

HUNTER, G. H., M.R.C.S., has been appointed Medical Officer for the Haughley Sanitary District of the Stow Union.

HUNTER, R. C., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act for Pontypridd, the Rhondda Valleys, Aberdare Merthyr, and Breconshire.

LAVERY, ANTHONY, L.R.C.P. & S.Edin., has been appointed Clinical Assistant for the Birmingham and Midland Hospital for Skin and Urinary Diseases.

LEIGH, J. DICKINSON, M.B., F.R.C.S., D.P.H. Edin., of Scarborough, has been appointed Medical Referee under the Workmen's Compensation Act, 1897, for the Malton, Whitby, and Scarborough Districts.

LEWIS, F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fifth Sanitary District of the Steyning Union.

LEWIS, J. K., M.R.C.S., has been appointed Medical Officer for the Rewe Sanitary District of the St. Thomas Union, Devon.

MACGREGOR, P., L.R.C.P., F.R.C.S. Edin., has been appointed Medical Referee under the Workmen's Compensation Act for the Huddersfield County Court area.

MITCHELL, T., M.D. Glasg., D.P.H. Cantab., has been re-appointed a District Medical Officer of Health by the Llangyfelach District Council.

MORGAN, R. B., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act for the County Court District No. 30, which includes the County Court Districts of Swansea and Bridgend, and has been re-appointed a District Medical Officer of Health by the Llangyfelach District Council.

NASH, W. GIFFORD, F.R.C.S., has been appointed a Medical Referee under the Workmen's Compensation Act for County Court Circuit No. 35, which includes Bedford and several adjacent towns.

NORTON, E. E., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer for the Shoreditch Board of Guardians.

PETHICK, C. S., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Referee under the Workmen's Compensation Act for the County Court Circuit of St. Helens and Widnes.

PORTER, J. F., M.D. Dub., M.R.C.S., has been re-appointed Medical Officer of Health by the Helmsley Rural District Council.

ROBINSON, H., M.B., C.M. Edin., has been appointed Medical Officer for the Cottage Homes of the Sculcoates Union.

SAYERS, M. H., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Berks Hospital, Reading.

STRETT, E. F., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Seventh Sanitary District of the Sudbury Union.

THYNE, W., M.D., C.M., L.R.C.P., L.R.C.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

TUXFORD, A., M.D. Edin., has been appointed Medical Referee under the Workmen's Compensation Act for the County Court Circuit No. 17, of Boston, Holbeach, Sleaford, Spalding, and Spilsby.

WALLACE, A. J., M.D. Edin., has been appointed Honorary Assistant Medical Officer for the Hospital for Women, Shaw-street, Liverpool, vice J. E. Gemmell.

WATSON, C. GORDON, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon for the Norfolk and Norwich Hospital, Norwich.

WEBB, T. L., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Pathologist for the Salop Infirmary.

WHITAKER, B. T., M.B., Ch.M., B.Sc., F.C.S., D.P.H., has been appointed Medical Officer of Health by the Oakengates Urban District Council.

WIGHAM, W. HARPER, M.B. Durh., M.R.C.S., has been re-appointed Medical Officer of Health by the South Molton (Devon) Urban District Council.

WILLIS, A., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Newmarket Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £50, with board, apartments, and laundry. Applications to Mr. F. H. Carver, Hon. Sec., 5, Rumford-place, Liverpool.

BLACKBURN INFIRMARY.—Locum Tenens from July 1st for six weeks to perform the duties of House Surgeon. Terms two guineas per week and travelling expenses paid.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Registrar (Honorary).

CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, board and residence.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Board, washing, and apartments provided, and an honorarium of £10.

COUNTY OF LANARK, District of the Middle Ward. Resident Physician for the Middle Ward Isolation Hospital. Salary £140 per annum, with board, &c. Applications to Mr. T. B. Ferguson, County Buildings, Hamilton.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Resident Dispenser and Assistant to the House Surgeon. Board, lodging, and washing provided, and an honorarium at the rate of 20 guineas given conditionally.

GUEST HOSPITAL, Dudley.—Resident Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board, lodging, and washing in the hospital.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

LIVERPOOL STANLEY HOSPITAL.—Honorary Assistant Surgeon.

MANCHESTER EAR HOSPITAL.—Clinical Clerkship for a Senior Student for six months. Honorarium 10 guineas.

NORFOLK AND NORWICH HOSPITAL, Norwich.—House Physician for two years, unmarried. Salary £60 per annum, with board, lodging, and washing.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £70 first year, and advancement after, with board and lodging.

ROYAL HALIFAX INFIRMARY.—House Surgeon, unmarried. Salary £80 per annum, advancing £10 per year up to £100, with residence, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Assistant Surgeon. Also Junior House Surgeon. Salary £50, with board and residence in the hospital.

SALISBURY INFIRMARY.—Assistant House Surgeon for six months, unmarried. Board, lodging, and washing provided, and an honorarium of £10 given.

SHAFTESBURY HOUSE PRIVATE ASYLUM, Formby, near Liverpool.—Junior Medical Officer. £50 per annum, with board, lodging, and washing. Applications to A. A. Gill, M.D., Formby, Lancashire.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

UNIVERSITY COLLEGE, London.—Resident Medical Officer.

VICTORIA UNIVERSITY (THE YORKSHIRE COLLEGE, LEEDS): DEPARTMENT OF MEDICINE.—Professor of Materia Medica, Pharmacology, and Therapeutics. The emoluments are from fees alone.

WEST RIDING ASYLUM, Menston, near Leeds.—Fourth Assistant Medical Officer. Salary to commence at £100, rising £10 annually to £150, with board and apartments.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon and to act as Surgical Registrar. Salary £100 a year, with board, lodging, and washing. Also Assistant House Surgeon for six months. Board, lodging, and washing provided, and a small honorarium will be given.

Births, Marriages, and Deaths.

BIRTHS.

ECCLES.—On June 20th, at Hertford-street, Mayfair, W., the wife of A. Symons Eccles, M.B., of a son.

FARR.—On June 20th, at Heath House, Andover, the wife of Ernest A. Farr, J.P., M.R.C.S. Eng., of a daughter.

HILL.—On June 21st, the wife of G. William Hill, M.D. Lond., of Weymouth-street, W., of a son, who only survived one day.

MACNAMARA.—On June 12th, at the Royal Hospital, Chelsea, the wife of Surgeon-Major W. J. Macnamara, A.M.S., of a son.

MORGAN.—On June 19th, at Old Steine, Brighton, the wife of George Morgan, F.R.C.S. Edin., of a son.

PERKINS.—On June 14th, at Ael-y-Bryn, Sketty, R.S.O., Glamorgan, the wife of Alfred Ll. Perkins, L.R.C.P. Ed., of a son.

ROBINSON.—On June 11th, at York House, Stourport, the wife of B. Stanley Robinson, L.R.C.P. Lond., M.R.C.S., of a son.

SILLAR.—On June 15th, at George-square, Edinburgh, the wife of W. Cameron Sillar, M.B., of a daughter.

MARRIAGES.

BROOK—HINE.—On June 16th, at Hillingdon Church, near Uxbridge, William Frederick Brook, F.R.C.S., of Swansea, to Agnes Beatrice Hine, younger daughter of S. D. Hine, M.R.C.S., of Renson.

COLLIS—FAIRBAIRN.—On June 17th, at Mansfield College Chapel, Oxford, Edgar Leigh Collis, L.R.C.P. Lond., M.R.C.S., fourth son of W. B. Collis, Esq., Stourbridge, to Barbara Shields, elder daughter of the Rev. the Principal Fairbairn.

GRAHAM—BLACKBURN.—At the Parish Church, Batley, Yorks, on June 14th, by the Vicar, the Rev. T. G. Davis, M.A., Vyner Graham, M.R.C.S., L.R.C.P., of Westbrook House, Aston Village, Birmingham, third son of T. Graham, Esq., of Elmcroft, Moorlands-avenue, Dewsbury, to Sarah Alice (Sissie) eldest daughter of Alderman J. W. Blackburn, J.P. (Mayor of Batley), Field House, Batley.

LISHMAN—GARRATT.—On June 11th, at All Saints' Church, Puerto Oratava, Frederick Lishman, M.D., son of W. Lishman, Esq., Sunderland, to Lucy Foster, second daughter of the Rev. C. F. Garratt, of Little Tew Grange, Oxfordshire.

MACKINTOSH—BALLARD.—On June 18th, at Christ Church, Lancaster-gate, John Stewart Mackintosh, M.R.C.S., L.R.C.P., second son of J. S. Mackintosh, of Wetherby-gardens, South Kensington, to Alice Emmeline, daughter of the late Edward Ballard, M.D., F.R.C.P., F.R.S.

MITCHELL—CROUCH.—On June 14th, at Trinity Church, Hampstead, Arthur Brownlow Mitchell, M.B., of College-square, Belfast, to Mabel Christina, youngest daughter of Charles W. Crouch, of Maitland-park, N.W.

NEWBOLT—ASHBURNER.—By special licence, on June 18th, at St. Peter's Church, Kirk Onchan, Isle of Man, by the Rev. S. A. P. Kermode, M.A., Vicar, assisted by the Rev. Canon Savage, Incumbent of St. Thomas', Douglas, and the Rev. F. Caywood Deardon, B.A., Vicar of Bamford, and the Rev. Henry Sharland, Curate, George Palmerston Newbolt, M.B., F.R.C.S., of 42, Catherine-street, Liverpool, only son of the late K. Kent Newbolt, Esq., of Weymouth, to Mary, only child of Robert Ashburner, Esq., of Douglas, Isle of Man.

RODDIS—LAWSON.—On June 17th, at All Saints' Church, Clapham-park, Thomas Ernest Earl Roddis, M.B., second son of G. Roddis, of Highclere, Hastings, to Caroline Emma Louisa, elder daughter of H. Lawson, of Seacombe, King's-road, Clapham-park.

STEAD—HARRISON.—On June 14th, at St. Paul's Church, Clifton, Bristol, by the Rev. S. Stead, formerly Archdeacon of Bombay, assisted by the Rev. Canon Mather, Vicar of St. Paul's, Clifton, Charles Clement, elder son of the Rev. S. Stead, to Adelaide Mary, third daughter of Dr. A. J. Harrison, Failand Lodge, Clifton.

THOMPSON—HODSON.—On June 15th, at All Saints' Church, Alrewas, by the Rev. W. Townshend, cousin of the bride, assisted by the Rev. W. A. Webb, vicar of the parish, Charles Thompson, M.R.C.S., L.R.C.P., of Heath Cottage, Stapenhill, Burton-on-Trent, to Lena, daughter of W. H. Hodson, Esq., of Tonbridge.

THOMSON—WOTHERSPOON.—At St. Giles' Cathedral, Edinburgh, on June 8th, 1898, by the Very Rev. J. Cameron Lees, D.D., LL.D., Dean of the Chapel Royal and of the Order of the Thistle, assisted by the Rev. P. Hay Hunter, St. Andrew's Parish Church, Edinburgh, and the Rev. W. H. Gray, B.D., Minister of Aberdour, Henry Alexis Thomson, M.D., F.R.C.S. Edin., to Ethel Kate, fourth surviving daughter of C. Grey Wotherspoon, of Hillside, Aberdour, Fife, and the Temple, London, Barrister-at-law.

WALKER—ROUTLEDGE.—On June 15th, at Eastbourne Parish Church, Basil Woodd Walker, M.D., of Chepstow-place, W., to Margaret (Daisy) only daughter of the late James Routledge, of Heathcote, Worthing.

DEATHS.

ADLEY.—On June 18th, Surgeon-General William Henry Adley, of Cleddy Lodge, Haverfordwest, late of Her Majesty's Indian Medical Service, aged 70.

CLIFFORD.—On June 15th, at St. George's-road, Frederick Morrison Clifford, late Surgeon-General, I.M.S.

YOUNG.—On June 18th, at Wiltshire-road, Brixton, Surgeon-General Young, M.D., aged 81.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 23rd, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
June 17	30·30	S.E.	...	112	73	52	54	58	Fine
,, 18	30·20	S.W.	...	120	80	55	59	65	Fine
,, 19	30·17	W.	...	114	76	61	61	65	Cloudy
,, 20	30·02	W.	...	121	77	56	59	62	Overcast
,, 21	29·92	S.W.	...	125	79	61	63	67	Cloudy
,, 22	29·76	N.W.	...	117	73	59	59	64	Cloudy
,, 23	29·91	N.W.	...	110	67	51	58	59	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. W. Ewart: The Treatment of Chronic Bright's Disease, Tubal Nephritis, reconsidered.—Dr. D. B. Lees and Dr. F. J. Poynton: Acute Dilatation of the Heart in the Rheumatism and Chorea of Childhood.—Dr. D. B. Lees: Acute Dilatation of the Heart in Rheumatic Fever.

WEDNESDAY (29th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4 P.M. Paper:—Dr. R. Walters: An Unusual Eruption in Two Children.

THURSDAY (30th).—NEUROLOGICAL SOCIETY (Medical Society's Rooms, 11, Chandos-street, W.).—8.30 P.M. Discussion on the Accurate Localisation of Intracranial Tumours (opened by Dr. C. E. Beevor). Dr. B. Bramwell, Dr. M. Clarke, Dr. Ormerod, Dr. N. Pitt, Dr. Sharkey, and Mr. M. Gunn will take part in the discussion.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. H. Tilley: Demonstration of Selected Cases (Ear, Throat, and Nose).

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. Wyatt Wingrave: The Normal and Morbid Histology of the Accessory Sinuses of the Nose.

TUESDAY (28th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Victor Horsley: Lecture.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Mr. D. Grant: On Disorders of the Nose and Throat in their relation to Diseases of the Nervous System.

CITY ORTHOPÆDIC HOSPITAL.—5.30 P.M. Mr. C. Williams: Lateral Curvature of Spine.

WEDNESDAY (29th).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Schorstein: Fibroid Phthisis.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. C. B. Keetley: The Treatment of the Various Kinds of Hernia.

THURSDAY (30th).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Dr. D. Grant: Diseases of the Sphenoidal and Ethmoidal Cells.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. A. Routh: Demonstration of Gynæcological Cases. (Post-graduate Class.)

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1898, which is completed with the issue of to-day, will be given in the next number of THE LANCET.

"THE CAPACITY OF THE FEMALE BLADDER."

To the Editors of THE LANCET.

SIRS,—Owing to absence from town it was only to-day that I read in THE LANCET of May 21st, p. 1397, that Dr. Simpson asks what is the largest quantity of urine which has been drawn off from the female bladder. I find in the *British Medical Journal*, 1885, vol. i., p. 177, a note of Mr. W. E. Green, stating that he has drawn off nine imperial pints (180 oz.).

I am, Sirs, yours faithfully,
Geneva, June 9th, 1898. A. CORDES, M.R.C.P. Lond.

ANNUAL ERYSIPELAS.

To the Editors of THE LANCET.

SIRS,—I have a patient, aged thirty-four years, who has had since 1892 annual attacks of erysipelas chiefly confined to the nose. Each attack follows a cold and commences with a rigor, and in four consecutive years the attack has commenced in the month of March and on the same day of the month. His father had erysipelas when nineteen years of age. Other than that I can find no cause for the repeated attacks. My patient is steady and very regular in his habits, and is very much annoyed at the frequency of the attacks which necessitate his staying from work (that of a fitter) for ten days or so each time. Will anyone be good enough to suggest the probable cause and the best line of treatment as a preventative?

I am, Sirs, yours faithfully,
June 20th, 1898. M.B. AND C.M.

A PLUCKY HOSPITAL PORTER.

AN inquiry was held on June 11th by Mr. Langham, the City and Southwark coroner, into the circumstances attending the death of Frederick Webb, who died in Guy's Hospital. The patient was suffering from pneumonia and, according to the evidence of his widow, was addicted to drink. He was admitted to the hospital on June 7th. The hospital porter deposed that on the morning of June 8th at about a quarter-past nine he saw deceased get out of the window of one of the wards and drop a distance of some 6 ft. on to a parapet. He (the porter) got a ladder and managed to get hold of deceased, who struggled with him, when another porter came to help. They all fell and rolled to the edge of the parapet, when deceased suddenly became quiet. He was taken back to the ward, but died within five minutes of being put back into bed. The house surgeon gave evidence that the cause of death was cardiac failure following upon exertion, and a verdict in accordance with this evidence was returned. It should be added that the night nurse deposed that Webb had slept quietly all night until ten minutes to nine. It is, of course, well known that sudden accesses of delirium are common in pneumonia, during which patients are likely to do rash acts, but we do not suppose that this unfortunate man knew in the least what he was doing or had any suicidal intent. The porter deserves every credit for his pluck, for to struggle with a delirious patient upon a roof is by no means a safe thing to do.

"VESALIUS."

To the Editors of THE LANCET.

SIRS,—In reply to "Frequent Correspondent" in THE LANCET of June 18th I beg leave to inform him that a paper by J. M. Ball on Andreas Vesalius, the Greatest of Anatomists, appeared in the *St. Louis Medical and Surgical Journal*, 1897, vol. lxxii., pp. 9-21.

I am, Sirs, yours faithfully,
June 22nd, 1898. W. F.

THE TREATMENT OF SEA-SICKNESS.

To the Editors of THE LANCET.

SIRS,—As I am shortly sailing as surgeon on a passenger boat I should be much obliged if you or your readers could tell me what treatment for sea-sickness they have found, from personal experience, to be the best as to diet, medicine, &c. The majority of the text-books are practically silent on the subject.

I am, Sirs, yours faithfully,
June 18th, 1898. M.R.C.S., &c.

Justitia may be alluding to the case, but apparently he does not know all about it. He will nowhere find in our remarks any attempt or intention to bolster up the position of the unfit. But it is for the general practitioner to recommend to a patient the need for consultation; and if a consultant, whether practising on general or special lines, is aware that his practice is growing at the expense of his fellow practitioners through the kind offices of a tradesman, it is, in our opinion, his duty to beg the tradesman to desist from volunteering his praises. If the tradesman is distinctly asked to name a medical man of course there is no harm in his doing so, but the gist of the matter to which we have referred is that, according to our informant, the tradesman was not asked.

Mr. Charles Nye.—The pamphlet is unsuitable for public circulation in the way that all quack literature is unfit. It is a direct invitation to the public to find themselves martyrs to neurasthenia and dysmenorrhœa, to say nothing of organic disease of kidneys, bladder, &c. Of course the remedial action of the nostrum is purely imaginary.

The Wedding Garment.—There does not seem to us any suggestion that the expense of the robes should be borne by the College. We do not see the force of the simile, "when suitably attired as so many old ladies," while we are certain that the cause of reform was never advanced by rudeness.

Provincial.—We cannot hazard a guess as to which course would be the most remunerative, but a man is generally paid best for what he does best. Surely our correspondent is not equally equipped in all directions. Has he no bias or special knowledge?

Medical Ethics.—We agree with our correspondent that the publication of such a list places the profession frankly in the category of tradesmen bidding for the support of the visiting population.

M.B. B.Ch., R. L., and *Qual. Asst.*—We have received several letters on the subject with which our correspondents deal for which we are unable to find room, at any rate in this issue.

Rusticus will find letters in our columns this week and in previous issues of THE LANCET giving publicity to different sides of a vexed question.

Poste Restante, Glasgow.—We will obtain the information if possible; in any case it will take a few days to procure it.

Apothecary's course is the right one.

During the week marked copies of the following newspapers have been received: *Lancashire Express, Newcastle Weekly Chronicle, Western Mercury, Times of India, Pioneer Mail, Eastern Morning News, Harrogate Advertiser, Architect, Sun, Kingston News, Leeds Mercury, Builder, Sheffield Telegraph, Scotsman, Citizen, Birmingham Gazette, Bristol Mercury, Glasgow Herald, Croydon Guardian, Herald of Wales, Berkhampstead Times, Stafford Advertiser, Liverpool Daily Post, Worcester Herald, Sussex Daily News, Bedfordshire Times, Manchester Courier, Yorkshire Post, Derbyshire Times, Leicester Post, Portsmouth Times, Brighton Gazette, Sanitary Record, Local Government Chronicle, City Press, Hertfordshire Mercury, Reading Mercury, Staffordshire Sentinel, Mining Journal, Le Courrier de la Presse, Local Government Journal, Weekly Free Press and Aberdeen Herald, Guy's Hospital Gazette, Isle of Wight County Press, Surrey Advertiser, Hong-Kong Weekly Press, Manchester Weekly Times, Le Temps, Epsom Herald, Derbyshire Courier, Western Mail, Kidderminster Sun, West Middlesex Herald, Guernsey Advertiser, Inverness Courier, Rawtenstall Times, Sevenoaks Chronicle, Tadcaster News,* &c., &c.

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Y.—Yorkshire College, Leeds.

Letters, each with enclosure, are also acknowledged from—

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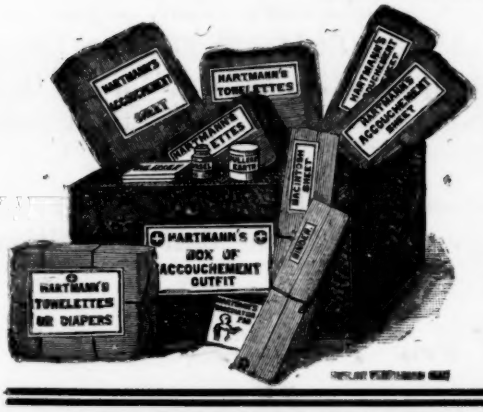

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It contains 3 different sizes of Hartmann's Absorbent Wood Wool Sheets, 4 dozen Hartmann's Hygienic Towelettes, Binder, Safety Pins, Antiseptic Ointment, Thread, Umbilical Pad, Fuller's Earth, Oiled Silk, Mackintosh Sheeting, &c.

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Colchicine (Methyl) Salicylate.
IN Rheumatism, Rheumatoid Arthritis, Gout & Allied Affections.
A Solution of Colchicine in Natural Methyl Salicylate dispensed in Capsules, each of which contains quarter of a milligramme of pure Crystallised Colchicine and 20 centigrammes of Methyl Salicylate, which is equivalent to 5 grains of Sodium Salicylate.
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To supplement the action of Colchi-Sal and to replace Salicylate of Soda when this salt is not tolerated internally.
Apply with brush to affected part—or gentle friction.
Colchi-Sal internally and Betul-Ol externally are perfectly safe, and give much more prompt and better results in relieving the pain and obtaining permanent effects than the uncertain and often dangerous Colchicum preparations and the Artificial Salicylates of Soda and Methyl.
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